

THE ELEMENTS OF INDIAN LOGIC

WITH

The Text and Hindi & English Translations of
TĀRKASANGRAHA (*Buddhikhaṇḍa*)

By

B L Atreya, M A , D Litt ,

University Professor of Philosophy and Head
of the Departments of Philosophy and Indian
Philosophy and Religion,

Benares Hindu University

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By the Same Author

Yogavishkha and Its Philosophy

Yogavishkha and Modern Thought

or

The Agreement of the East and the West

Visvaha-darśana-sāra (Hindi)

LEFACE TO THE THIRD

being no other

DEDICATED

With Affection and Gratitude

TO

MASTER HARI KRISHNAJI

*My most inspiring Teacher
of the School Career*

PREFACE TO THE THIRD EDITION

There being no other Textbook on Indian Logic which suits students, *The Elements of Indian Logic*, which was primarily written and printed for the students of the Benares Hindu University who had to read Indian Logic along with the Western, has become popular wherever study of Indian Logic has been introduced. It has been prescribed as a Textbook by the Benares Hindu University, Nagpur University, Jaipur University and the Board of High School and Intermediate Education, United Provinces. It is recommended by the teachers of Indian Philosophy to their students all over India. It is also appreciated in those foreign Universities where Indian Philosophy has been introduced. A Chinese translation of it was published some years ago. The author never expected that this little work would be so much appreciated.

The book being very much in demand, a third edition had to be brought out. Unfortunately the author had no time to make the contemplated improvements or to remove some defects of the previous edition in time before the book was handed to the Press for printing. Hence this edition is merely a reprint of the previous one.

The author is thankful to all those readers of the book who have from time to time written to him about the merits of the work and to those who have recommended it to be prescribed as a Textbook on Indian Logic.

Benares Hindu University,
January 25, 1948

B. L. ATREYA

PREFACE TO THE FIRST AND SECOND EDITION

In these pages an attempt is made to introduce the elementary concepts of Indian Logic to the beginner, who may wish or who may be required to supplement his knowledge of the Western Logic. The treatment has been kept simple,

clear and free from hair-splitting controvertial discussions, so as to suit the beginner. The author has avoided the temptation of making the book more exhaustive and complete, lest it should become too comprehensive for those for whom it is intended. To create a liking for and a habit of referring to the original texts of Indian Philosophy—which are absolutely essential for a thorough knowledge of it—the necessary portions of *Tarkasāgraha* (Manual of Logic) have been reproduced here and have been translated in easy and simple Hindi and English. To facilitate the reading of the text and translations, they have been arranged under appropriate headings and sub-headings, so that the reader may find out quite easily the topics and contents of the text. The English exposition, which forms the main portion of the book, has also been carefully arranged under sections within chapters. All the Sanskrit terms have been printed in *italics* with their English equivalents by their side. So far as it could be possible the important letters of the Sanskrit Alphabets have been transliterated. An exhaustive Index of all the terms and concepts of the entire book (including the Sanskrit Text and its Translations) has been given at the end.

This edition of the book is a development of my lecture-notes on Indian Logic, which were printed rather in a hurry under the name "Elements of Indian Logic" for the use of my students in 1926. Unfortunately that edition contained a number of printing mistakes, and so the book was restricted to circulation amongst the local students only. In this edition all the obvious defects of the first have been removed, and almost all the chapters have been completely revised. A few necessary chapters and sections have also been added.

I am obliged to my pupil and friend, Mr. Narayan Visbnu Joshi, M. A., for his assistance in correcting the proofs.

Benares Hindu University,
November 6, 1931.

B. L. ATREYA,
M.A., D.LITT.



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INTRODUCTION

Logic has rarely been studied in India as an independent subject as it has been in the Western countries. The problems dealt with in Indian Logic are rather psychological, epistemological and metaphysical than purely logical. The very nature of these problems is such that opinions with regard to them will widely differ, and it has been so in India as elsewhere. Many schools of thought have arisen in the past with their own distinctive views with regard to the solution of these problems. These views were always determined by the general philosophical points of view of the various schools of thought. The most important of these schools of Indian thought are the *Nyaya* founded by Gautama, the *Jaisnīka* by Kanada, the *Sankhya* by Kapila, the *Yoga* by Patanjali, the *Mīmāṃsā* by Jaimini, the *Vedānta* by Badaṛayana, the *Bauddha* by Buddha, the *Jaina* by Mahavira and the *Lokayata* or *Charvaka* by Brihaspati. Each of these schools has its own point of view in logic determined by its general philosophical outlook.

A complete and thorough study of Indian Logic requires, therefore, knowledge of the philosophy of these schools. But the *Nyaya* school of thought being primarily and particularly concerned with logical problems here an attempt is made to introduce to the beginner the elementary concepts of the logical doctrines of this school. Here and there a comparative reference will be made to the distinctive positions of other schools also, so that the student may not take the *Nyaya* views as the only and the final on the subject dealt with.

To introduce the Nyāya logic to a beginner, it has been a practice since long to teach him *Tarkasāgraha* in the beginning. It is an elementary textbook on the combined doctrines of Nyāya and Vaiśeṣika. It was composed by Annambhatta in the Seventeenth century A.D. Since its inception, it has been very popular. The author has also offered a commentary on his own text, which goes by the name *Tattvādīpikā*. In this commentary the author elaborates and revises some of his conceptions. In our present book we include extracts from the text of this work dealing with *Knowledge (Buddhi)*.

अथ तर्कसंग्रहे बुद्धिनिरूपणम् ।



निधाय हृदि विश्वेशं विधाय गुरुवन्दनम् ।
बालानां सुखबोधाय क्रियते तर्कसंग्रहः ॥ १ ॥

बुद्धिः ।

बुद्धिः—

सर्वव्यवहारहेतुगुणो बुद्धिर्ज्ञानम् ।

बुद्धिभेदो—

सा द्विविधा—स्मृतिरनुभवश्च ।

स्मृतिः—

संस्कारमात्रजन्यं ज्ञानं स्मृतिः ।

अनुभवः—

तद्विषयं ज्ञानमनुभवः ।

अनुभवभेदो—

स द्विविधो यथार्थोऽयथार्थश्चेति ।

यथार्थानुभवः—

तद्वति तत्प्रकारकोऽनुभवो यथार्थः, यथाऽयं घट इति ज्ञानम् । सैव
प्रमेत्युच्यते ।

अयथार्थानुभवः—

तदभावयति तत्प्रकारकव्यायथार्थः, यथा शुक्लाविदं रजतमिति ज्ञानम् ।

यथार्थानुभवभेदाः—

यथार्थानुभवश्चतुर्विधः—प्रत्यक्षानुमित्युपमितिशब्दभेदात् ।

तेषां करणानि—

तत्करणमपि चतुर्विधं प्रत्यक्षानुमानोपमानशब्दभेदात् ।

कारणम् ।

करणम्—

असाधारण कारणं करणम् ।

कारणम्—

(अनन्यथासिद्धत्वे सति) कार्यनिवृत्तपूर्ववृत्ति कारणम् ।

कार्यम्—

कार्यं प्रागभावप्रतिषाधि ।

कारणभेदाः—

कारण त्रिविधं—समवायिसमवायिनिमित्तभेदात् ।

समवायिकारणम्—

यत्समवेतं कार्यमुत्पद्यते तत्समवायि कारणम्, यथा तन्त्रवः पटस्य पटश्च स्वगतरूपादेः ।

असमवायिकारणम्—

कार्येण कारणेन वा सदैकस्मिन्नर्थे समवेतत्वे सति यत्कारण तत्समवायि कारणम्, यथा तन्मुखंयोगः पटस्य, तन्मुखं पटरूपस्य ।

निमित्तकारणम्—

तदुभयभिन्न कारण निमित्तकारण, यथा तुरीयेमादिकं पटस्य ।

करणम्—

तदेतत्त्रिविधकारणमध्ये यदसाधारण कारण तदेव करणम् ।

समवायः ।

समवाय --

नित्यसम्बन्ध समवाय अयुतसिद्धवृत्ति ।

अयुतसिद्धौ—

ययोर्द्वयार्थे एकमविनश्यदपराधितमेवावतिष्ठत तावयुतसिद्धौ ।
यथा—अवयवावयविनौ, गुणगुणिनौ, क्रियाम्रियावन्तौ, जातिव्यक्ती, विशेष
नित्यद्रव्ये चेति ।

प्रत्यक्षम् ।

प्रत्यक्षप्रमाणम्—

प्रत्यक्षज्ञानकरम् प्रत्यक्षम् ।

प्रत्यक्षज्ञानम्—

इन्द्रियायसन्निकर्षजन्य ज्ञान प्रत्यक्षम् ।

प्रत्यक्षभेदौ—

तद्द्विविध—निर्विकल्पक सविकल्पक चेति ।

निर्विकल्पकम्—

तत्र निःप्रकारक ज्ञान निर्विकल्पकम् ।

सविकल्पकम्—

सप्रकारक ज्ञान सविकल्पकम्, यथा-दित्योऽयं ब्राह्मणाऽयमिति ।

इन्द्रियार्थसन्निकर्षभेदाः—

प्रत्यक्षज्ञानहेतुरिन्द्रियायैसन्निकर्षः षट्त्रिविधः—संयोगः, संयुक्तसमवायः, संयुक्तसमवेतसमवायः, समवायः, समवेतसमवायो, विशेषणविशेष्यभावश्चेति ।

संयोगः—

चक्षुषा घटप्रत्यक्षजनने संयोगः सन्निकर्षः ।

संयुक्तसमवायः—

घटरूपप्रत्यक्षे संयुक्तसमवायः सन्निकर्षः, चक्षुःसंयुक्ते घटे रूपत्वसमवायात् ।

संयुक्तसमवेतसमवायः—

रूपत्वसामान्यप्रत्यक्षे संयुक्तसमवेतसमवायः सन्निकर्षः, चक्षुःसंयुक्ते घटे रूपं समवेत, तत्र रूपत्वस्य समवायात् ।

समवायः—

श्रोत्रेण शब्दसाक्षात्कारे समवायः सन्निकर्षः, कर्णविश्वरूपत्वाकाशस्य श्रोत्रत्वात्, शब्दस्याकाशगुणत्वात्, गुणगुणिनीध समवायात् ।

समवेतसमवायः—

शब्दत्वसाक्षात्कारे समवेतसमवायः सन्निकर्षः, श्रोत्रसमवेते शब्दे शब्दत्वस्य समवायात् ।

विशेषणविशेष्यभावः—

अभावप्रत्यक्षे विशेषणविशेष्यभावः सन्निकर्षः, घटामात्रवृत्तलमित्यत्र चक्षुःसंयुक्ते भूतले घटामात्रस्य विशेषणत्वात् ।

प्रत्यक्षम्—

एवं सन्निकर्षषट्कजन्यं ज्ञानं प्रत्यक्षं । तत्करणमिन्द्रियम् । तस्मादिन्द्रियं प्रत्यक्षप्रमाणमिति सिद्धम् ।

अनुमानम् ।

अनुमानम्—

अनुमितिकरणमनुमानम् ।

अनुमितिः—

परामर्शजन्य शानमनुमिति ।

परामर्शः—

व्याप्तिविशिष्टपक्षधर्मताज्ञान परामर्शः, यथा—बहिष्वाप्यधूमवानय पर्वत इति शानम् ।

अनुमितिः—

तद्वज्जन्य पर्वतो बहिष्मानिति शानमनुमितिः ।

व्याप्तिः—

यत्र यत्र धूमस्तत्रत्राग्निरिति साहचर्य नियमो व्याप्तिः ।

पक्षधर्मता—

व्याप्यस्य पर्वतादिवृत्तित्व पक्षधर्मता ।

अनुमानभेदौ—

अनुमान द्विविध स्वार्थ परार्थञ्च ।

स्वार्थानुमानम्—

तत्र स्वार्थे स्वानुमितिहेतुः । तथाहि स्वयमेव भूयोदर्शनेन यत्र धूमस्तत्राग्निरिति महानसादौ व्याप्तिं गृहीत्वा पर्वतसमीप गतस्तद्गते चाग्नौ सन्दिहानः पर्वते धूम पश्यन्व्याप्तिं स्मरन्नि यत्र धूमस्तत्राग्निरिति । तदनन्तरं बहिष्वाप्यधूमवानय पर्वत इतिज्ञानमुत्पद्यते । अथमेव लिङ्गपरामर्श इत्युच्यते । तन्मात्पर्वतो बहिष्मानिति शानमनुमितिइत्युच्यते । तदेतत्स्वार्थानुमानम् ।

परार्थानुमानम्—

यत्तु स्वयं धूमादग्निमनुमाय परप्रत्ययार्थं पञ्चावयववाक्यं प्रयुज्यते तत्परार्थानुमानम्, यथा—पर्वतो वारिमान्, धूमवत्त्वात्, यो यो धूमवान् स सोऽग्निमान् । यथा महानसः; तथा चायम्; तस्मात्तथा इति । अनेन प्रतिपादितालिङ्गात्परोऽप्यग्निं प्रतिपद्यते ।

पञ्चावयवाः—

प्रतिपादेन दाहरणोपनयनिरामनानि पञ्चावयवाः । पर्वतोऽग्निमानिति प्रतिज्ञा । धूमवत्त्वादिति हेतुः । यो यो धूमवान्स सोऽग्निमान्यथा महानस इत्युदाहरणम् । तथा चायमित्युपनयः । तस्मात्तथेति निगमनम् ।

लिङ्गपरामर्शः—

स्वार्थानुमीति परार्थानुमित्येव लिङ्गपरामर्श एव कारणम् तस्मादलिङ्गपरामर्शोऽनुमानम् ।

लिङ्गभेदाः—

लिङ्गं त्रिविधम्—अन्वयव्यतिरेकि, केवलान्वयि, केवलव्यतिरेकि चेति

अन्वयव्यतिरेकि—

अन्वयेन व्यतिरेकेण व्याप्तिमदन्वयव्यतिरेकि । यथा वद्री साध्ये धूमवत्त्वम् । यत्र धूमस्तत्राग्निरित्यन्वयव्याप्तिः । यत्र वह्निर्नास्ति तत्र धूमोऽपि नास्ति यथा महाहृद इति व्यतिरेक व्याप्तिः ।

केवलान्वयि—

अन्वयमात्रव्याप्तिके केवलान्वयि, यथा घटोऽग्निपेयः प्रमेयत्वात्पटवत् । अत्र प्रमेयत्वाऽग्निपेयत्वयोर्व्यतिरेकव्याप्तिर्नास्ति, सर्वस्यैव प्रमेयत्वादग्निपेयत्वाच्च ।

केवलव्यतिरेकि —

व्यतिरेकमात्रव्याप्तिक केवलव्यतिरेकि, यथा—पृथिवीतरेभ्यो मिद्वते गन्धवत्त्वात् । यदितरेभ्यो न मिश्रते, न तद्रन्धवत् यथा जलम्, नचेयन्तथा, तस्मान्न तथति अत्र यद्रन्धवत्तदितर मिश्रमित्यन्वयदृष्टान्तो भास्ति, पृथि बीमात्रस्य पक्षत्वात् ।

पक्ष —

सन्दिग्धसाध्यवान् पक्ष, यथा—धूमवत्त्व इतौ पर्वत ।

सपक्ष —

निश्चितसाध्यवान् सपक्ष, यथा—तत्रैव महानस ।

विपक्ष —

निश्चितसाध्याभाववान्विपक्ष, यथा—तत्रैव महाहृद ।

हेत्वाभासाः ।

हेत्वाभासा —

सव्यभिचार विरुद्ध सत्यतिपक्षाऽसिद्ध बाधिता पञ्चहेत्वाभासा ।

सव्यभिचार. —

सव्यभिचारोऽनैकान्तिक ।

सव्यभिचारभेदाः —

स त्रिविध — साधारणाऽसाधारणाऽनुपसहारिभेदात् ।

साधारण —

तत्र साध्याभाववद्बुद्धि साधारणोऽनैकान्तिक, यथा—पर्वतोऽग्निमान् प्रमेयत्वादिति, प्रमेयत्वस्य बहव्यभाववति हृदे विद्यमानत्वात् ।

असाधारण —

सर्वसपक्षविपक्षव्यावृत्त पक्षमात्रवृत्तिरसाधारण । यथा—शब्दो नित्य शब्दत्वादिति । शब्दत्वं हि सर्वेभ्यो नित्येभ्योऽनित्येभ्यो व्यावृत्त शब्दमात्रवृत्ति ।

अनुपसंहारी—

अन्वयव्यतिरेकदृष्टान्तरहितोऽनुपसंहारी, यथा—सर्वमनित्यं प्रमेयत्वादिति ।
अत्र सर्वस्यापि पक्षत्वादृष्टान्तो नास्ति ।

विरुद्धः—

साध्याभावव्याप्तो हेतुर्विरुद्धः, यथा—शब्दो नित्यः कृतकत्वादिति ।
कृतकत्वं हि नित्यत्वामावेनानित्यत्वेन व्याप्तम् ।

सत्प्रतिपक्षः—

यस्य साध्यामात्रसाधकं हेत्वन्तरं विद्यते स सत्प्रतिपक्षः, यथा—शब्दो
नित्यः कार्यत्वात् यद्वदिति ।

असिद्धभेदाः—

असिद्धत्रिविधः—आश्रयाऽसिद्धः स्वरूपाऽसिद्धो व्याप्यत्वाऽसिद्ध-
श्चेति ।

आश्रयासिद्धः—

आश्रयाऽसिद्धो यथा—गगनारविन्दं सुरभिः, अरविन्दत्वात् सरोजार-
विन्दवत् इति । अत्र गगनारविन्दमाश्रयः स च नास्त्येव ।

स्वरूपासिद्धः—

स्वरूपासिद्धो यथा—शब्दो नित्यश्चाधुपत्वाद् रूपवत् इति । अत्र
चाधुपत्वं पक्षे नास्ति शब्दस्य आनणत्वात् ।

व्याप्यत्वासिद्धः—

सोपाधिको (हेतुः) व्याप्यत्वासिद्धः ।

उपाधिः—

साध्यव्यापकत्वे सति साधनाव्यापक उपाधिः । साध्यमानाधिकरणा-
त्यन्ताभावाप्रतियोगित्वं साध्यव्यापकत्वम् । साधनवन्निष्ठात्यन्ताभावप्रतियोगित्वं

साधनाव्यापकत्वम् । यथा—पर्वतो घूमवान्वहिमत्वादिनि अत्राद्रेन्धनसंयोग
उपाधिः । तथाहि, यत्रधूमस्तत्राद्रेन्धनसंयोग इति साध्यव्यापकत्वम् । यत्र
बन्दिस्तत्राद्रेन्धनसंयोगो नास्ति, अयोगोलके आद्रेन्धनाभावात् इति साधना-
व्यापकत्वम् । एवं साध्यव्यापकत्वे सति साधनाव्यापकत्वादद्रेन्धनसंयोग
उपाधिः । सोपाधिकत्वाद्वाहिमत्वं व्यापत्वासिद्धम् ।

बाधितः—

यस्य साध्याभावः प्रमाणान्तरेण निश्चितः स बाधितः, यथा—बहिरनुष्णो
द्रव्यत्वात् इति । अत्रानुष्णत्वं साध्य सदभाव उष्णत्व स्पर्शेन प्रत्यक्षेण
गृह्यते—इति बाधितत्वम् ।

उपमानम् ।

उपमानम्—

उपमितिकरणमुपमानम् ।

उपमिति—

संज्ञासंज्ञिसम्बन्धज्ञानमुपमितिः ।

उपमितिकरणम्—

सत्करण सादृश्यज्ञानम् । तथाहि—कश्चिद्रूपशब्दवाच्यमज्ञानं कुतश्चि-
दारण्यकपुरुषात् गोसदृशो गवय इति श्रुत्वा येन गतो वाक्यार्थं स्मरन्
गोसदृशं विष्टं पश्यति । तदनन्तरम् असौ गवयशब्दवाच्य इति
उपमितिकृत्यग्रते ।

शब्दः ।

शब्दः—

आप्तवाक्य शब्दः ।

आप्तः—

आप्तस्तु यथार्थवक्ता ।

वाक्यम् —

वाक्यं पदसमूहः, यथा—गामानवेति ।

पदम्—

शक्तं पदम् ।

शक्तिः—

अस्मात्पदादयमर्थो बोद्धव्य इतीश्वरसंकेतः शक्तिः ।

वाक्यार्थज्ञानहेतु —

आकाक्षा, योग्यता, सन्निधिश्च वाक्यार्थज्ञाने हेतुः ।

आकाक्षा—

पदस्य पदान्तरव्यतिरेकप्रयुक्तान्यवाननुभावकत्वमाकाक्षा ।

योग्यता —

अर्थावाधो योग्यता ।

सन्निधिः—

पदानामविलम्बेनोच्चारणं सन्निधिः ।

अप्रमाणं वाक्यम्—

आकाक्षादिरहितं वाक्यमप्रमाणम् । यथा—गौरश्वः पुरुषो हस्तीति न प्रमाणम्, अकाक्षीविरहात् । अग्निना सिन्धेदिनि न प्रमाणं, योग्यताविरहात् । ग्रहं ग्रहरे असहोच्चारितानि गाम्, आनव इत्यादिपदानि न प्रमाणम्, सन्निध्यामावात् ।

वाक्यमोदी—

वाक्यं द्विविधं—वैदिकं लौकिकञ्च ।

वैदिकं वाक्यम्—

वैदिकर्थाश्वरोक्तत्वात्सर्वमेव प्रमाणम् ।

लौकिकं वाक्यम्—

लौकिकत्वात्तरेके प्रमाणम् । अन्यदप्रमाणम् ।

शाब्दज्ञानम्—

वाक्यार्थज्ञानं शाब्दज्ञानं । तत्करणं शब्दः ।

अयथार्थानुभवभेदाः

अयथार्थानुभवभेदाः—

अयथार्थानुभवस्त्रिविधः—सशय विपर्यय तर्कभेदात् ।

सशयः—

एकस्मिधर्मिणि विरुद्धनानाधर्मवैशिष्ट्यज्ञानं सशयः । यथा स्थानुर्वा
पुरुषो वेति ।

विपर्ययः—

भिष्याज्ञानं विपर्ययः, यथा शुक्लो ह्यद रजतमिति ।

तर्कः—

व्याप्यारोपेण व्यापकारोपस्तर्कः, यथा—यदि बहिनं स्यात्तर्हि धूमोऽपि
न स्यादिति ।

स्मृतिभेदाः ।

स्मृतिभेदाः—

स्मृतिरपि द्विविधा—यथार्थाऽवयवार्था च ।

यथार्था—

प्रमाजन्त्या यथार्थाः ।

अयथार्था—

अप्रमान्त्या अयथार्थाः ।

इति तर्कसंग्रहे सुदिनिरूपणम् ।

तर्कसंग्रह (बुद्धिखण्ड)

हिन्दी अनुवाद

बुद्धि

बुद्धि—(आत्मा का) गुण ज्ञान, जो कि सब व्यवहारों का हेतु है, बुद्धि (पहचान) है ।

बुद्धि के भेद—बुद्धि दो प्रकार की होती है—स्मृति और अनुभव ।

स्मृति—(पूर्वअनुभव के) संस्कारमात्र से उत्पन्न हुए ज्ञान को स्मृति कहते हैं ।

अनुभव—स्मृति से अतिरिक्त ज्ञान अनुभव है ।

अनुभव के दो भेद—अनुभव दो प्रकार का है—वर्ण्य और अवर्ण्य ।

वर्ण्य अनुभव [प्रमा]—जिस अनुभव में, जो वस्तु जिस प्रकार की हो वह वैसी जानी ही जाए, वह अनुभव वर्ण्य अनुभव है, जिस—वह पदा है । उमरा नाम प्रमा भी है ।

अवर्ण्य अनुभव—जिस प्रकार की वस्तु न हो उमरा वैसा ज्ञान होता अवर्ण्य अनुभव है । जैसे मीन में खादी का ज्ञान ।

वर्ण्य अनुभव के भेद—वर्ण्य अनुभव चार प्रकार का होता है—प्रत्यक्ष, अनुमिति, उपमिति और शब्द ।

उत्पत्ति कारण—उनके कारण भी चार हैं—प्रत्यक्ष, अनुमान, उपमान और शब्द ।

कारण

कारण—भलाकारण कारण का नाम कारण है ।

कारण—(अनन्यकारिण होने हुए) जो वस्तु सदा ही कार्य के उत्पत्ति होने के पूर्व वर्तमान होती है उसको उस कार्य का कारण कहते हैं ।

कार्य—अपने प्रागभाव (उत्पन्न होने के पूर्व का अभाव) के प्रतियोगी (विरोधक) को कार्य कहते हैं। (अर्थात् जो वस्तु पहिले मौजूद न हो और अब उत्पन्न हो गई हो उसका नाम कार्य है)।

कारण के भेद—कारण तीन प्रकार के हैं—समवायी, असमवायी और निमित्त।

समवायी कारण—समवायी कारण वह है जिसमें समवेत रहते हुये कार्य उत्पन्न होता है—जैसे तागे कपडे के, और कपडा अपने रंग आदि गुणों का।

असमवायी कारण—असमवायी कारण वह कारण है जो स्वयं समवायी न हो, किन्तु जिसके कार्य अथवा कारण के साथ एक ही वस्तु में समवेत होने पर कार्य का उत्पत्ति होती हो—जैसे तागों का संयोग कपडे का, और तागों का रंग कपडे के रंग का असमवायी कारण है।

निमित्त कारण—इन दोनों से भिन्न जो कारण है उसको निमित्त कहते हैं। जैसे तुरी, चरला आदि (औजार) कपडे के।

करण—इन तीनों कारणों में से जो किसी कार्य का असाधारण (स्वातंत्र्य) कारण हो उसे करण कहते हैं। जैसे प्रत्यक्ष ज्ञान का कारण प्रत्यक्ष प्रमाण है।

समवाय

समवाय—नित्य सम्बन्ध का नाम समवाय है। वह अयुतसिद्ध वस्तुओं में होता है।

अयुतसिद्ध—जिन दो वस्तुओं में से एक ऐसी हो कि जबतक वह नष्ट न हो जाए तबतक दूसरी के आश्रय पर स्थित रहे, उसको अयुत सिद्ध कहते हैं। जैसे अवयवी और उसके अवयव, गुणी और उसके गुण, क्रियावान् और उसकी क्रिया, जाति और व्यक्ति, नित्यद्रव्य और उसकी विशेषता।

प्रत्यक्ष

प्रत्यक्ष—इन्द्रिय और विषय के सन्निकर्ष से उत्पन्न हुआ ज्ञान प्रत्यक्ष है।

प्रत्यक्ष ज्ञान के भेद—प्रत्यक्ष ज्ञान दो प्रकार का होता है, निर्विकल्पक और सविकल्पक।

निर्विकल्पक प्रत्यक्ष—वह ज्ञान जिसमें यह न मालूम पड़े कि क्या क्या है निर्विकल्पक है। जैसे—‘यह कुछ है’।

सविकल्पक प्रत्यक्ष—वह ज्ञान जिसमें यह मालूम रहे कि वस्तु क्या है सविकल्पक कहलाता है। जैसे—यह मांझण है, यह काला है।

सन्निकर्ष के ६ भेद—प्रत्यक्ष ज्ञान का हेतु इन्द्रिय और विषय का सन्निकर्ष ६ प्रकार का है—१ संयोग, २ संयुक्तसमवाय, ३ संयुक्तसमवेत-समवाय, ४ समवाय, ५ समवेतसमवाय, ६ विशेषणविशेष्यभाव।

संयोग—आज से घड़े का प्रत्यक्ष ज्ञान होने में संयोग सन्निकर्ष है।

संयुक्तसमवाय—घड़े के रङ्ग का प्रत्यक्ष ज्ञान होने में संयुक्तसमवाय सन्निकर्ष है, क्योंकि आज से संयुक्त घड़े के साथ रङ्ग का समवाय सम्बन्ध है।

संयुक्तसमवेतसमवाय रङ्ग का सामान्यरूप जानने वाल प्रत्यक्ष में संयुक्तसमवेतसमवाय सन्निकर्ष है, क्योंकि आज से संयुक्त घड़े में उसका रङ्ग समवेत है और उस रङ्ग के साथ सामान्य रङ्ग का समवाय सम्बन्ध है।

समवाय—ज्ञान द्वारा शब्द (अत्तात्र) का प्रत्यक्ष ज्ञान में समवाय सन्निकर्ष है, क्योंकि ज्ञान के भीतर जो आकाश (योग्यती जगह) है वही कर्णेन्द्रिय है और शब्द आकाश का गुण होने के कारण शब्द और आकाश में समवाय सम्बन्ध है।

समवेतसमवाय—शब्दत्व (शब्द का गुण) के साक्षात्कार करने में समवेतसमवाय सन्निकर्ष है । क्योंकि शब्दत्व का शब्द के साथ 'समवाय सम्बन्ध है और शब्द का कान के साथ ।

विशेषणविशेष्यभाव—अभाव का प्रत्यक्ष ज्ञान होने में विशेषण-विशेष्यभाव सन्निकर्ष है । पृथ्वीतल पर घड़े का अभाव है, ऐसा ज्ञान तब होता है जब कि घड़े का अभाव उस पृथ्वी तल का विशेषण हो जो कि आस से संयुक्त है ।

प्रत्यक्ष--इस प्रकार से ६ सन्निकर्षों द्वारा प्राप्त ज्ञान प्रत्यक्ष ज्ञान है ।

प्रत्यक्ष का करण—प्रत्यक्ष का करण इन्द्रिय है । इसलिये इन्द्रिय ही प्रत्यक्ष प्रमाण (प्रमा का करण) है यह सिद्ध हुआ ।

अनुमान

अनुमान—अनुमिति का करण अनुमान है ।

अनुमिति—परामर्श से उत्पन्न हुआ ज्ञान अनुमिति है ।

परामर्श—व्याप्ति सहित पक्षधर्मता का ज्ञान परामर्श है—जैसे यह ज्ञान कि इस पर्वत पर उस प्रकार का धुआं दिखाई देता है जो अग्नि से व्याप्य (साथ मौजूद रहने वाला) है । इससे उत्पन्न हुआ यह ज्ञान कि पर्वत पर आग है, अनुमिति है ।

न्याये—जहां जहां धुआं है वहां वही आग है इस प्रकार के सादृश्य (साथ साथ रहने) के नियम का नाम व्याप्ति है ।

पक्षधर्मता—न्याय्य (जिस वस्तु के साथ कोई दूसरा वस्तु सदा ही रहती हो) का परम आदि किसी स्थान पर वर्तमान होना पक्षधर्मता कहलाता है ।

अनुमान के भेद—अनुमान दो प्रकार का होता है—स्वायं (अपने लिये) और परार्थ (दूसरे को समझाने के लिये) ।

स्वार्थ अनुमान—अपनी अनुमिति का हेतु स्वार्थ अनुमान है। जैसे कोई मनुष्य चौके आदि स्थानों में बार बार धुएँ और अग्नि को साथ साथ देखकर इस निश्चय को पहुँच कर कि—जहाँ जहाँ धुआँ है वहाँ वहाँ अग्नि भी है—एक पर्वत के समीप पहुँच कर वहाँ पर धुआँ उठता हुआ देख कर इस व्याप्ति को याद करे और उस स्मरण के कारण उसें यह ज्ञान हो जाय कि वहाँ पर आग है। इसका नाम लिङ्गपरामर्श है। उस लिङ्ग परामर्श से ही यह ज्ञान उत्पन्न हुआ कि पर्वत पर आग है। इसका नाम स्वार्थ अनुमान है।

परायणनुमान—जबकि अपने आप धुएँ से अग्नि का अनुमान करके कोई आदमी दूसरे को समझाने के लिये पात्र अवयव वाक्यों का प्रयोग करता है उसको परार्थ अनुमान कहते हैं। जैसे—पर्वत पर आग है, क्योंकि वहाँ पर धुआँ है। जहाँ जहाँ धुआँ है वहाँ वहाँ आग है, जैसे कि चौके में वहाँ पर भी ऐसा ही होना चाहीये। इसलिये वहाँ पर भी आग है। लिङ्ग के इस प्रकार के प्रतिपादन से दूसरा व्यक्ति भी पर्वत पर आग, होने का अनुमान कर सकता है।

पाच अवयव—प्रतिज्ञा, हेतु, उदाहरण, उपनय और निगमन, ये पाँच अवयव हैं। पर्वत पर आग है—यह प्रतिज्ञा है। वहाँ पर धुआँ होने की वजह से—यह हेतु है। जहाँ जहाँ धुआँ है, वहाँ वहाँ आग है, जैसे कि चौके में—यह उदाहरण है। वहाँ भी वैसा ही हान्न है—यह उपनय है। इसलिये वहाँ पर आग है—यह निगमन है।

लिङ्गपरामर्श—स्वार्थ अनुमिति और परार्थ अनुमिति दोनों काही लिङ्गपरामर्श करण है। इसलिये लिङ्गपरामर्श ही का नाम अनुमान है।

लिङ्ग के तीन प्रकार—लिङ्ग तीन प्रकार का है—अन्वयव्यतिरेकी, केवलान्वयी और केवलव्यतिरेकी।

अन्वयव्यतिरेकी—अन्वयव्यतिरेकी लिङ्ग उसको कहते हैं, जिसके साथ अन्वय और व्यतिरेक दोनों ही प्रकार की व्याप्ति हो जैसे—जहाँ पर

आग का होना साध्य हो वहा धुएँ का मौजूद होना । जहा पर धुआ है वहा पर आग है, जैसे चौके में—यह अन्वय व्याप्ति है। जहा पर आग नहीं है, वहा पर धुआ भी नहीं है, जैसे जलाशय में—यह व्यतिरेक व्याप्ति है।

केवलान्वयी—जिस लिङ्ग के साथ केवल अन्वय व्याप्ति हो, वह केवलान्वयी लिङ्ग कहलाता है। जैसे—घट अभिधेय (जिसका कोई नाम हो सके) है, क्योंकि वह प्रमेय (ज्ञान का विषय) है, जैसे पट। यहा पर (कयल यह अन्वय व्याप्ति ही है कि जो जो प्रमेय है वह वह अभिधेय भी है) व्यतिरेक व्याप्ति नहीं हो सकती। क्योंकि सब पदार्थ प्रमेय और अभिधेय दोनों ही हैं। कोई ऐसा उदाहरण नहीं है जो प्रमेय अथवा अभिधेय न हो।

केवलव्यतिरेकी—जिस लिङ्ग के साथ केवल व्यतिरेक व्याप्ति ही हो (अन्वय व्याप्ति न हो) उसका नाम केवलव्यतिरेकी लिङ्ग है। जैसे—पृथ्वी और तत्त्वों (जल, अग्नि, वायु, आकाश) से भिन्न है, क्योंकि इसका गुण गन्ध है। जो औरों से भिन्न नहीं वह गन्धवाला भी नहीं, जैसे—जल। यहा पर इस प्रकार की अन्वयव्याप्ति कि—जो जो गन्ध वाला है वह वह औरों से भिन्न है—नहीं मिल सकती क्योंकि पृथ्वी के अतिरेक और कोई इस व्याप्ति का उदाहरण ही नहीं है। केवल पृथ्वी तत्त्व ही ऐसा है जिसका गुण गन्ध है।

पक्ष—जिसमें किसी साध्य (अनुमान द्वारा सिद्ध की जानेवाली वस्तु) के होने का सन्देह हो वह पक्ष है। जैसे—पर्वत, जहा पर कि—धुएँ के वत्तमान होने से अग्नि के होने का सन्देह होता है।

सपक्ष—जहा पर साध्य वस्तु का उत्पन्न होना निश्चित हो वह सपक्ष है, जैसे—चौरा।

विपक्ष—जहा पर साध्य का मौजूद न होना निश्चित हो वह विपक्ष है, जैसे—जलाशय।

हेत्वाभास

पाँच हेत्वाभास—सव्यभिचार, विरुद्ध, सत्प्रतिपक्ष, असिद्ध और नाशित—ये पाँच हेत्वाभास हैं।

सव्यभिचार—अनैकान्तिक (जो कि अपने साध्य के साथ ही सर्वदा वर्तमान न रहे) हेतु का नाम सव्यभिचार है।

सव्यभिचार के भेद—सव्यभिचार तीन प्रकार का है—साधारण, असाधारण और अनुपसंहारी।

साधारण—वह हेतु जो कि अपने द्वारा साध्य वस्तु के अभाव के स्थान में भी मौजूद रहे, जैसे—पर्वत पर आग है, क्योंकि पर्वत 'ज्ञान का विषय' है। यहाँ पर जो हेतु—ज्ञान का विषय होना—है वह तो यहाँ पर भी मौजूद होता है जहाँ पर आग नहीं होती, जैसे कि जलाशय।

असाधारण—वह हेतु जो किसी भी सपक्ष या विपक्ष वस्तु में वर्तमान न हो, केवल पक्ष में ही हो—असाधारण कहलाता है। जैसे—शब्द नित्य है क्योंकि उसमें शब्दत्व है। शब्दत्व तो केवल शब्द में होता है, और किसी भी नित्य अथवा अनित्य वस्तु में नहीं होता।

अनुपसंहारी—अनुपसंहारी वह हेतु है जिसके साथ न कोई अन्वय का दृष्टान्त हो और न कोई व्यतिरेक का, जैसे—सब कुछ अनित्य है 'प्रमेय होने' के कारण। यहाँ पर 'सब कुछ' पक्ष होने की वजह से कोई सपक्ष और विपक्ष दृष्टान्त नहीं मिल सकता।

विरुद्ध—जिस हेतु के साथ उसके साध्य का अभाव हो वह हेतु विरुद्ध कहलाता है। जैसे—शब्द नित्य है क्योंकि वह उत्पन्न होता है। जो जो पैदा होता है वह वह प्रत्येक अनित्य है। इसलिये पैदा होने वाला अनित्य नहीं हो सकता।

सत्प्रतिपक्ष—जिस हेतु के सुझावले में एक दूसरा ऐसा हेतु वर्तमान हो जो कि उसके साध्य के अभाव को सिद्ध करता हो, उसे सत्प्रतिपक्ष

कहते हैं। जैसे—शब्द नित्य है मुने जाने के कारण, और शब्द अनित्य है, क्योंकि वह कार्य है, जैसे—घट।

असिद्ध क तीन भेद—असिद्ध हेतु तीन प्रकार का होता है—आश्रयासिद्ध, स्वरूपासिद्ध और व्याप्यत्वासिद्ध।

आश्रयासिद्ध—आश्रयासिद्ध का उदाहरण यह है—आकाश—कमल सुगन्ध वाला है, क्योंकि वह कमल है, जैसे तालाब का कमल। यहाँ पर आकाश कमल अनुमान का आश्रय है। वह स्वयं वर्तमान नहीं है।

स्वरूपासिद्ध—स्वरूपासिद्ध हेतु का उदाहरण यह है—शब्द गुण है, क्योंकि वह आँखों द्वारा दिखाई पड़ता है। यहाँ पर शब्द में आँख द्वारा दिखाई देने का गुण ही नहीं है क्योंकि शब्द तो कान से सुनाई देने वाली वस्तु है, आँख से दिखाई देने वाली नहीं है।

व्याप्यत्वमिद्ध—उपाधियुक्त हेतु का नाम व्याप्यत्वासिद्ध है।

उपाधि—जो साध्य का व्यापक हो परन्तु साधन का व्यापक न हो उसे उपाधि कहते हैं। साध्य के अत्यन्त अभाव का प्रतियोगी होना साध्य का व्यापक होना है। साधन के साथ साध्य के अभाव का रहना साधन का अव्यापक होना कहलाता है। इस अनुमान में कि—पर्वत पर धुआ है क्योंकि वहाँ पर आग है, गीले ईंधन का संयोग उपाधि है। जहाँ धुआ है वहाँ गीले ईंधन का संयोग है—यह साध्य-व्यापकता है। जहाँ अग्नि है वहाँ गीले ईंधन का संयोग नहीं है, जैसे—लेडि के गोले में गीले ईंधन का संयोग नहीं है—यह साधन की अव्यापकता है। इसलिये साध्य के साथ व्यापक होने पर साधन के साथ व्यापक न होने से गीले ईंधन का संयोग उपाधि कहलाता है। उपाधि के सहित होने पर अग्नि का होना सिद्ध करने-वाला हेतु सौपाधिक है।

बाधित—जिस हेतु के साध्य का अभाव दूसरे प्रमाण से निश्चित हो सिद्ध है वह हेतु बाधित कहलाता है। जैसे—आग 'गरम नहीं' है, क्योंकि वह द्रव्य है। यहाँ पर 'गरम न होना' साध्य है। उसका अभाव

(गरम होना) स्पर्श द्वारा प्रत्यक्ष ज्ञान से सिद्ध है । हमलिये इस साध्य को सिद्ध करने के लिये दिया गया हेतु बाधित है ।

उपमान

उपमान—उपमिति का करण उपमान है ।

उपमिति—किसी नाम के उस नामवाली वस्तु से सम्बन्ध के ज्ञान को उपमिति कहते हैं । उसका करण सादृश्यज्ञान है । पहिले मुने हुये विश्वस्त पुरुष के वाक्य के अर्थ का स्मरण भी इसमें कारण होता है । जैसे—किसी मनुष्य ने यह जानना चाहा कि गवय शब्द का क्या अर्थ है । उसने किसी वन में रहनेवाले पुरुष से मुना कि गवय गौ के सदृश होता है । जब वह वन में गया और उस वाक्य को स्मरण रखते हुये उसने एक पेसे पशु को देखा जो गौ के सदृश था तो उसको यह ज्ञान होगया कि वह गवय है । इस ज्ञान का नाम उपमिति है ।

शब्द

शब्द - आत्त (विश्वस्त) पुरुष के वाक्य को शब्द कहते हैं ।

आत्त—समायं कहनेवाले को आत्त कहते हैं ।

वक्ष्य—पदों के समूह का नाम वाक्य है । जैसे—गौ को लाओ ।

पद—जिसमें (अर्थ के प्रकाश करने की) शक्ति हो उसे पद कहते हैं ।

शक्ति—इंश्वर का यह संकेत कि—इस (पद) से यह अर्थ समझा जायगा शक्ति कहलाती है ।

वाक्य के ज्ञान के हेतु—आज्ञाप्ता, योग्यता और सभिधि वाक्य के अर्थ जानने के हेतु हैं ।

आकांक्षा—दूसरे शब्द के उच्चारण हुये बिना जब किसी शब्द का अभिप्राय समझ में न आये—इस प्रकार का किसी वाक्य के पदों का सम्बन्ध आकांक्षा कहलाता है।

योग्यता—अर्थ का बाध न होना योग्यता है।

सन्निधि—पदों का बिना विलंब के उच्चारण सन्निधि है।

अप्रमाणवाक्य—आकांक्षा आदि से रहित वाक्य अप्रमाण है (प्रमाण नहीं होता)। जैसे 'गौ अथ पुरुष हस्ती' ऐसा वाक्य, आकांक्षा रहित होने से, प्रमाण नहीं है। 'अग्नि मे र्सीचो'—यह वाक्य योग्यता के न होने के कारण प्रमाण नहीं है। 'गौ—को—लाओ' यह वाक्य प्रमाण नहीं होगा, यदि इसके पद एक एक पहर के पाँछे उच्चारण किये जायें क्योंकि सन्निधि का अभाव होजायगा।

वाक्य के भेद—वाक्य दो प्रकार के हैं—लौकिक और वैदिक।

वैदिक वाक्य—वैदिक वाक्य प्रमाण हैं, क्योंकि वे ईश्वर के कहे हुए हैं।

लौकिक वाक्य—लौकिक वाक्य वे ही प्रमाण हैं, जो कि आत पुरुषों के वाक्य हों। अन्य वाक्य प्रमाण नहीं हैं।

शब्दज्ञान—वाक्य के अर्थ का ज्ञान शब्द ज्ञान है। उसका करण शब्द है।

अयंयार्थानुभव

अयंयार्थ अनुभव के भेद—अयंयार्थ अनुभव तीन प्रकार के हैं—संशय, विपर्यय और तर्क।

संशय—जिस ज्ञान में एक ही वस्तु में नाजान विद्वद् धर्मों का मौजूद होना मात्रम पड़े वह संशय है। जैसे 'यह यम्मा है अथवा पुरुष ?'।

विपर्यय—मिथ्या ज्ञान का नाम विपर्यय है जैसे—शुक्ति (सीप) में चाँदी का ज्ञान ।

तर्क—व्याप्य के द्वारा व्यापक की सिद्धि करने का नाम तर्क है । जैसे—
यदि आग न हो तो धुआ भी नहीं होना चाहिये ।

स्मृति

स्मृति के 'नद'—स्मृति भी दो प्रकार की है—समायं और अव-
सायं ।

समायं स्मृति—प्रमा से उत्पन्न हुई स्मृति समायं है ।

अवसायं स्मृति—अप्रमा (अवसायं अनुभव) से उत्पन्न हुई स्मृति
अवसायं है ।

TRANSLATION OF THE TEXT OF

TARKASANGRAHA

DEALING WITH KNOWLEDGE

KNOWLEDGE

Knowledge is the cognition (a quality of the soul) which is the cause of all our activities (social intercourse). It is of two kinds, Remembrances and Experience. Remembrance is the knowledge produced from mental impressions (of the past experience) alone. Knowledge other than remembrance is Experience.

EXPERIENCE

It (Experience) is of two kinds, valid and invalid. The valid (experience) is that which reveals the attributes possessed by the object. It is called *Prama*, the invalid (false) one is that experience of an object which reveals attributes not possessed by the object e.g., knowledge of silver in a conch shell.

KINDS OF EXPERIENCE

Valid experience is of four kinds. Percept (perceptual knowledge), Inference, knowledge acquired through Comparison and knowledge got through Verbal Testimony. The indispensable means (instruments) of these are also four, namely, Perception, Inference, Comparison and Language.

THE INSTRUMENT

An instrument is a cause which is peculiar (to the effect).

(ākāśa) and the quality is inherent in the qualified. 'Inherence in the inherent' is the contact in perceiving the generic nature of sound, as the genus of sound is inherent in the sound which is inherent in the organ of hearing. 'The relation of the qualification with that which is qualified' is the contact in the perception of non-existence, as the non-existence of a jar is a qualification of a place in contact with the eye whenever a place is devoid of a jar. The knowledge thus produced from the sixfold contact is perception. Its peculiar cause is the sense-organ

INFERENCE

Inference is the peculiar cause of Inferential knowledge. Inferential knowledge is the knowledge that arises from Consideration (*Parāmarśa*). Consideration is the knowledge of a Reason as qualified by an Invariable Concomitance, as for instance, the knowledge that this mountain has the smoke which is invariably accompanied by fire is a Consideration, while the knowledge born of it, that the mountain has fire, is inferential knowledge. The Invariable Concomitance is the certainty of accompaniment that wherever there is smoke there is fire. The existence of an invariably concomitant thing on an object like a mountain makes it a *pakṣa* (minor term).

TWO KINDS OF INFERENCE

Inference is of two kinds.—that 'for oneself' and that 'for another'. Of these, the former is the source of one's own inferential knowledge. Eg. When a man having himself formed by repeated observation the generalisation that where there is smoke there is fire, as in a kitchen, happens to go to a mountain, and seeing smoke on the mountain, and suspecting fire thereon, remembers the generalisation, wherever there is smoke there is fire. Then the knowledge is produced that

the mountain has smoke accompanied by fire This is called *Consideration* Thence arises the inference, namely, the knowledge that the mountain has fire This is 'the inference for oneself' When, however, after having inferred fire from smoke oneself, one employs a five membered syllogism to convince another person, is an 'inference for another' Eg, 'The mountain has fire, because it has smoke, wherever there is smoke, there is fire, as in a kitchen, such is the case here, hence there is fire here' By this means even another man comes to know the existence of fire from a sign thus interpreted

THE FIVE MEMBERS OF INFERENCE

The five members are — Proposition, Reason, Example, Application and Conclusion 'The mountain has fire',—this is a Proposition 'Because it has smoke'—this is the Reason 'Wherever there is smoke, there is fire, as in the kitchen',—this is an Example 'Here it is like this',—this is Application 'Therefore it is so',—this is the Conclusion

CONSIDERATION

Consideration of the sign (smoke in the example) is alone the cause of both kinds of inference, namely, that for oneself and that for another Hence consideration is (really) the inference

The Sign (the mark of the presence of the inferred object) is of three kinds 1 the Positive negative, 2, the Purely Positive, and 3 the Purely Negative That which pervades (the thing to be proved) both positively and negatively is positive-negative, as for example, the presence of smoke when fire is to be proved to be existing in some place 'Where there is smoke, there is fire as in a kitchen' is a positive concomitance 'Where there is no fire, there is no smoke, as in a lake'

is a negative concomitance. A purely positive sign is that which is connected with a positive concomitance only, e.g., 'a pot is nameable because it is knowable like a cloth' Here there is no negative concomitance of nameability and knowability possible, as all things are knowable and nameable. A purely negative sign is that which is connected with a negative concomitance only, e.g., 'earth differs from other elements because it has smell, that which does not so differ has no smell, as water; this is not like it, and hence it is not so' Here there is no positive instance (of any thing) that has smell but differs from others, because earth (which is the only element having smell) is the subject of the inference.

THE SUBJECT (MINOR TERM)

A subject (minor term) is that where the thing to be proved (major term) is suspected, as 'the mountain' (in the example) when the presence of smoke is the sign (the middle term)

THE SIMILAR INSTANCE

A similar instance is that where the thing to be proved is already ascertained to be present, as a 'kitchen' in the example.

THE CONTRARY INSTANCE

A contrary instance is that where the absence of the thing to be proved is already ascertained, as 'a lake' in the example

FALLACIOUS REASONS

There are five Fallacious Reasons, namely, 1. the Discrepant, 2 the Contradictory, 3. the Counter-balanced, 4 the Unproved, and 5. The Absurd.

THE UNPROVED REASON

The unproved reason is of three kinds, namely, 1 one having a non-existent subject, 2 one that is non-existent itself and 3. one resting on an unestablished concomitance. An example of the unproved reason having a non-existent subject is: 'A sky-lotus is fragrant, because it is a lotus, like a lotus in a lake' Here the 'sky-lotus' is the subject but it has no existence at all. An example of a non-existent reason is this 'sound is a quality because it is visible' Sound is not at all visible; it is audible. An unestablished concomitance is one which is conditional or limited in its scope. A Condition or Limitation is that which pervades the thing to be proved, but is not pervaded by the reason. Pervasion of the thing to be proved means not having its non-existence co-existent with itself; while non-pervasion by the reason means having its non-existence co-existing with the reason. In the generalisation 'the mountain has smoke because it has fire,' contact with wet fuel is the 'condition or limitation. For instance, 'wherever there is smoke there is contact with wet fuel' 'Wherever there is fire, there is no contact with wet fuel, e.g., there is no contact of wet fuel with an iron ball' Thus 'wet fuel' is the condition because it pervades the thing to be proved and it is not pervaded by the reason. The presence of fire in the example is an unproved reason owing to the condition

THE ABSURD REASON

its negation is hotness which is cognised by the touch perception. Hence it is absurd to prove otherwise it is a substance'. Here coldness is the thing to be proved, and

A reason is absurd where the negation of the thing to be proved is established by another proof, e.g., 'fire is cold as

COMPARISON

Comparison is the peculiar cause of the knowledge born of similarity. This kind of knowledge has for its object the connection of a name with the object denoted by it. Knowledge of similarity is its immediate cause. Remembrance of the direction given by a reliable person is also a necessary activity. For example, A man has heard the name *garaya* but does not know the object called by that name. He hears from a forester that a *garaya* is similar to a cow, and goes to the forest, where he sees an animal like a cow. Then he comes to know that the animal is what is called *garaya*. This knowledge is the knowledge born of the perception of similarity.

THE WORD

The Word is a sentence spoken by an authority. An Authority is a person who speaks the truth. A Sentence is a group of words (having a meaning). A word is that which has the power of expressing meaning. The power is a convention made by God that certain words will have certain sense.

CONDITIONS OF THE MEANINGFULNESS OF
A SENTENCE

Expectancy, Compatibility and Juxtaposition are the conditions of the knowledge of the meaning of a sentence. Expectancy is the absence of the inability of a word to convey the meaning of a sentence on account of the absence of some other word. Compatibility is the non-contradiction of the sense. Juxtaposition is consecutive utterance of words. A sentence devoid of expectancy, etc., is unauthoritative. For example, (the collection of unconnected) words, horse, cow,

man, elephant, are not authoritative, being devoid of expectancy; the sentence, 'sprinkle with fire' is unauthoritative for want of compatibility; Words—"Bring".....'a'.....'cow', pronounced at long intervals are not authoritative owing to want of juxtaposition.

THE SENTENCE

A sentence is of two kinds, Scriptural and Secular; the Scriptural sentence, being uttered by God, is always authoritative, while a secular sentence is authoritative only when pronounced by a reliable person. Other sentences are not authoritative.

THE VERBAL KNOWLEDGE

Verbal knowledge means the knowledge of the meaning of a sentence; its peculiar cause is the Word (sentence of an authority).

THE INVALID EXPERIENCE

The invalid experience is of three kinds, namely, Doubt, Error and False Assumption. Doubt is the apprehension of contrary attributes in one and the same object, e.g., 'Is it a post or a man?' Error is false knowledge, as the experience of silver in a conch-shell. False Assumption is the (wrong) deduction of the major term by the (wrong) assumption of a middle term, as 'if there be no fire, there would be no smoke'.

REMEMBRANCE

Remembrance is also of two kinds valid and invalid; the one arising from valid experience is valid, that arising from invalid experience is invalid.

THE ELEMENTS OF INDIAN LOGIC

CHAPTER 1

KNOWLEDGE (*Buddhi*)

The logical portions of the Nyāya and Vaiśeṣika systems of philosophy deal with *Buddhi* (knowledge) and its various forms. The term *Buddhi* has been used in various senses in Indian philosophy: (1) the act of knowing or understanding, (2) the instrument with which we know, i.e., intellect, and (3) the result or product of the knowing process, i.e., knowledge. The philosophers of the Nyāya and Vaiśeṣika schools use the word in the last sense. It is defined in *Tarkasaṅgraha* as "The Cognition on which all our activities (particularly the social intercourse) are based." Knowledge in fact is presupposed by all our activities. All cognition, however, is not the basis or necessary condition of activities. Indeterminate perception (*nirvikalpaka pratyakṣa*) for example, cannot be regarded such a cognition on which our practical life or social intercourse is based. But we cannot deny that indeterminate perception is also a kind of knowledge. It is admitted by all systems of Indian philosophy as a kind of knowledge. Hence the above definition of knowledge (*buddhi*) is too narrow. The author of *Tarkasaṅgraha* himself, therefore, proposed another and a more general definition of knowledge in his *Tattvādīpikā*, namely, that "knowledge is awareness which is expressed in the language *I know*". In fact cognition or awareness is a *sui generis* fact of our nature and hence the summum genus of its own kind, and so cannot be logically defined. It can only be felt introspectively. And we all know what knowledge is without being able to define it.

The Nyāya-Vaiśeṣika thinkers regard knowledge as a quality of the soul (*Ātman*) which is the real knower (*jñātā*).

KINDS OF KNOWLEDGE

Knowledge is of two kinds, namely, (1) Remembrance (*smṛiti*) and (2) Experience (*anubhava*). Remembrance is the knowledge based on the impressions of the past experience, i.e., on memory traces. Experience (*anubhava*) is all knowledge other than remembrance. It is a name given to all knowledge that is newly acquired and is not merely due to memory.

TWO KINDS OF EXPERIENCE

Experience is of two kinds, namely, (1) Valid (*Yathārtha*) and (2) Invalid (*ayathārtha*). A valid experience (*yathārthānubhava*), usually called *Pramā* in logical literature, is that in which an object is known as possessing attributes which it really possesses, e.g., to know an animal as horse when in reality it is a horse is to have valid experience. An invalid experience (*ayathārthānubhava*) which is also called *apramā* or *bhrama*, is that in which an object is known as having those attributes which it does not have in reality. For example, to know an animal as an ass, mule or cow when in reality it is a horse is to have *ayathārthānubhava*. In other words the contents of valid knowledge correspond with the attributes of the objects of knowledge, whereas those of the invalid knowledge do not. This theory of the truth of knowledge is called the 'copy theory' or 'correspondence theory' in the Western philosophy.

CONSCIOUSNESS OF THE VALIDITY OF KNOWLEDGE

The division of Experience into valid (*pramā*) and invalid (*apramā*) raises a very interesting and important problem which has been discussed at length in Indian philosophy, and

on which opinion has widely differed. The problem is: How and when do we actually know whether a particular experience is valid or invalid? According to the Sankhya school of thought, both the truth and falsity (validity and invalidity) of an experience are known intuitively, according to the Naiyayikas both the truth and falsity of an experience are known by independent evidence, and therefore, cannot be presumed until proved. This view is called the doctrine of *paratah pramanya* (validity depending upon other grounds than merely the experience of knowledge). According to the Buddhists an experience is *prima facie* false, but may be regarded as true only if proved to be so by independent evidence. The Mimamsakas and the Vedantists regard every experience as such, as valid. It may, however, be regarded as false when later on it turns out to be so, or when it is contradicted by another subsequent experience. This view is called the doctrine of *svatah pramanya* (self validity of knowledge).

The main contest lies between the doctrines of self validity (*svatah pramanya*) and derived validity (*paratah pramanya*) of knowledge, held by the Mimamsakas and the Naiyayikas respectively. The Mimamsakas say that at the very moment when some experience arises in us, and by the same causes which give rise to the experience, consciousness of its being valid also arises. It is evident from the fact that every experience prompts us to some activity. A man who happens to experience a snake where in reality there is only a rope, runs out of fear, and a man who perceives silver where there is only a piece of shell, tries to pick it up. Sense of validity thus accompanies even those experiences which are later on realised to be false. Moreover, it is not objects or facts as such that establish the validity or invalidity of knowledge, but the subsequent and repeated knowledge of these facts which

maintains or sublates the previous knowledge. Further, according to the Mimāṃsakas, knowledge, as such, is never invalid; it is always valid, when it is erroneous, it is partial or is determined by some unusual and extraneous interference. The Naiyāyikas, on the other hand, say that truth or falsity is not an attribute of knowledge as such. It does not accompany knowledge. It arises from other circumstances than those which give rise to knowledge. If our activity based on a particular experience is fruitful or successful, then the experience is regarded as valid, if it is otherwise, then the experience is regarded as invalid. For example, the perception of a river in a sandy stretch of land by itself is neither true nor false until it is tested by actually going to the place where it is being perceived. Every experience, thus, is valid or invalid, not immediately when it occurs, but after its pragmatic verification. Moreover, if the self-validity of every experience is accepted, there would be no illusory knowledge. But we all know that some of our experiences turn out to be mere illusions, when tested pragmatically. The experience of a river on a sandy desert turns out to be a mirage only when the thirsty traveller fails to find water therein.

An impartial consideration of the problem based on psychological evidence goes, it may be pointed out here, in favour of the Mimāṃsakas. Every experience is *ipso facto* believed to be real. It is so in cases of true experience, of experiences that turn out to be illusory later on, and of dreams. Dream-experiences and illusions are believed as true when they actually occur. Doubt creeps into them only when they do not cohere and agree with other more lasting and more numerous experiences. As long as an experience is not contradicted by another experience, its validity is never questioned. It is questioned and overthrown only because its

rival has it in greater degree. So, ultimately, the sense of validity accompanies every experience at the moment of its occurrence. The Buddhist view that all experience is *prima-facie* false has no psychological foundation. Falsity of an experience is not felt at the time of its occurrence. It is realised later on when the experience is contradicted by other experiences.

TWO KINDS OF KNOWLEDGE BASED ON MEMORY

Remembrance (*smṛiti*) may also be valid or invalid. The former is that which is based on the impressions of valid experience and the latter arises from invalid experience. The truth or falsity of remembrance, thus, depends upon the truth or falsity of the experience remembered. It is so because the test of truth of all knowledge according to the Naiyāyikas is objective correspondence.

SUB DIVISIONS OF (VALID) EXPERIENCE

Valid experience may be divided into two main kinds, namely, Direct (*Pratyakṣa*) and Indirect (*Parokṣa*). Direct experience is the knowledge of an object got through the direct apprehension of it with one's own senses, while Indirect experience is the knowledge of an object acquired through other means than the actual perception of it.

Direct experience is of two kinds, namely, internal or introspective (*antara*) and external (*bahya*). The internal direct experience is the knowledge of the states of one's own mind gained through the mind (*manas*) which is the internal sense (*antara indriya*). For example, the knowledge of one's own pleasure, pain, anger, fear, hunger and thirst etc. The external direct perception is got through the agency of the external sense organs, namely, ears, nose, eyes, tongue and

skin. These give us the knowledge of sound, smell, form, taste and tactile qualities (heat, cold, roughness, smoothness) of objects.

The Indirect experience is of several kinds according to the *means* through which it is acquired. Philosophers in India have greatly differed with regard to the number of the proper *means* through which indirect knowledge of objects is acquired. Hence there is also difference of opinion with regard to the number of the kinds of indirect experience. The Chârṣākas (Indian Materialists) totally deny the possibility of indirect knowledge. The only knowledge that is possible according to them is the direct sense-knowledge (*pratyakṣa*). The Buddhists and the Vaiṣeṣikas admit the indirect knowledge through the process of inference (*anumiti*). The Sāṅkhyas and the Jāinas admit in addition to these two (*pratyakṣa* and *anumiti*) a third kind of knowledge, which is indirect, namely, that which is got through the words of some reliable authority (*śabda*). In addition to these three kinds of knowledge (*pratyakṣa*, *anumiti* and *śabda*) the Naiyāyikas admit another kind of indirect knowledge, namely, *Upamiti* which we have through the recognition of similarity or resemblance (*Upamāna*) between two objects, one of which was not known previously. Thus according to the Naiyāyikas over and above the two kinds of direct experience, there are three kinds of *indirect experience*, viz., *Anumiti* (inferential), *Shābda* (acquired from the words of a trustworthy authority) and *Upamiti* (which we have through the similarity of the previously unknown with some already known object).

The Mīmāṃsakas admit a fifth source of experience (new knowledge), namely *necessary presupposition* (*arthāpatti*). By it they mean an assumption of some unknown fact without which some known fact cannot be possible. It is very much

similar to what the Inductive logicians of the West call hypothesis. The Mimamsakas, therefore, in addition to the four kinds of indirect knowledge, admit also a fifth kind of it, namely, *arthapatti*, which is got by means of the necessary presupposition (valid hypothesis). Over and above these five kinds of indirect knowledge, the Vedantists and some Mimamsakas admit also a sixth kind, namely, the knowledge of non-existence of objects (*anupalabdhī*). We shall deal with the nature of these kinds of knowledge and the means through which we acquire them in details in the subsequent chapters.

It may, however, be noted here that modern Western logic admits only two sources of knowledge, viz., Perception and Inference. Verbal testimony has little value, if it is not verifiable. Upamāna (Comparison) is a kind of inference, so is *arthapatti* (hypothesis). The means of knowing the non-existence of any object may be perception or inference, as the case may be.

According to the Jaina thinkers (See Umaswati's *Tattvarthasiddhigamasastra*) the division of knowledge is as follows: I The *Pratyakṣa* (direct) knowledge is that which is acquired by the soul directly without the intervention of the senses or any other external agencies. II The *Parokṣa* (indirect) knowledge is that which is acquired through external agencies like the senses. The *Pratyakṣa* knowledge includes three kinds of knowledge attained through *yogic* powers, namely, *Avadhi* (clairvoyance), *Manahpariyāya* (telepathy) and *Akēśa* (omniscience). *Avadhi* (clairvoyance) is the knowledge of things beyond the range of ordinary perception. It is the knowledge of events or things at a distance and in different times. *Manahpariyāya* is the direct knowledge of the thoughts and feelings of others. The *Akēśa jñāna* is the absolute, unconditional and unobstructed knowledge of the

perfected soul which knows things as they are without any fault or limitation. The *Parokía* (indirect) knowledge is of two kinds: *Matá* or the knowledge of the present objects acquired through the agency of the mind and the senses; and *Srutá* or the knowledge of the past, present or future objects through the process of reasoning

CHAPTER II

PRAMĀNA (THE MEANS OF VALID KNOWLEDGE)

We have already pointed out that valid experience is called *pramā* by Indian philosophers. It may also be noted that the object of valid knowledge is called *prameya*. The means by which the subject (*pramata*) acquires the valid knowledge (*prama*) of an object (*prameya*) is called *pramāna* by them. The mere presence of a subject (*pramata*) and an object (*prameya*) will not bring about knowledge (*prama*). Some other factors also must be operative before knowledge can arise in the knower or subject. The most essential of these factors without the presence of which in spite of the subject and the object being present knowledge would not arise at all or a particular kind of knowledge would not arise is called *pramāna* (essential means of knowledge). It is thus defined as the most essential (*sādhakā tama*) of the causes of *prama*. The cause (*karana*) which is most essential (*sādhakā tama*) is called (*Prana*). Hence *pramāna* is said to be the *karana* of *prama* in *Tārānāgraha*. To illustrate what is meant by *pramāna* let us take the case of the perceptual knowledge of an object. Perception of an object is due to many factors which must be operative before the rise of knowledge. But, of all the causes one namely, the coming of the object in contact with the senses of the knower is particularly necessary for bringing about perception of the object. Without the contact of the object with the sense-organ of the subject perception cannot be produced. Moreover, the presence of the subject and the object and the activity of the mind which are causal factors in perception are also causal factors in other kinds of knowledge inference,

comparison etc. Hence they are not particularly but generally, necessary for perception. The only factor which is peculiar to perception is the contact with senses. Hence it is regarded as the *pramāṇa* of perceptual knowledge. In the same way there is a cause peculiar to each kind of knowledge, which, in addition to the causes generally required for the production of all kinds of knowledge, must operate before that particular kind of knowledge can arise in the knower.

THE NUMBER OF PRAMĀNAS

As already pointed out in the last chapter, Indian philosophers have differed very much with regard to the number of the kinds of knowledge, and so, with regards to the number of the means of knowledge (*pramāṇas*)

The number of the *pramāṇas* (indispensable causes of *pramā*) recognised by thinkers of different schools of Indian thought goes upto ten, out of which the six mentioned in the last chapter, namely, *Pratyakṣa* (Perception), *Anumāna* (Inference), *Śabda* (Verbal Testimony of an authority), *Upamāna* (Comparison), *Arthapatti* (Necessary Assumption) and *Anuplabdhi* (Nonapprehension) are the most important, and are recognised by the most prominent and influential schools of thought. The rest four are *Āstīya* (Tradition), *Chetā* (Gesture), *Parīkṣa* (Elimination), and *Sambhāva* (Inclusion).

Of these *Pramāṇas*—

1. The *Chārṇikās* recognise only one *pramāṇa*, namely, *Pratyakṣa*, as the source of right knowledge
2. The *Vaiśeṣikas*, the *Jainas* and the *Buddhists* recognise two, namely, *Pratyakṣa*, and *Anumāna*
3. The *Sāṅkhya* and *Yoga* schools recognise only three, namely, *Pratyakṣa*, *Anumāna* and *Śabda*

4. The Naiyayikas recognise only four, namely, *Pratyakṣa*, *Anumana*, *Śabda* and *Upamana*

5. Some Mīmāṃsakas (followers of Prabhākara) recognise five, namely, *Pratyakṣa*, *Anumana*, *Upamana*, *Śabda*, and *Arthapatti*

6. Another group of Mīmāṃsakas (followers of Kumārila Bhaṭṭa) and the Vedāntists of Śāṅkara (*Advaita*) school recognise six pramāṇas, namely, *Pratyakṣa*, *Anumana*, *Śabda*, *Upamana*, *Arthapatti* and *Anupalabdhi*

7. The scholars of the *Purāṇas* (Historians) recognise eight pramāṇas, namely, *Pratyakṣa*, *Anumana*, *Śabda*, *Upamana*, *Arthapatti*, *Anupalabdhi*, *Ātīthya*, and *Sambhava*

8. The *Tantrikas* (students of the *Tantras*) recognise nine pramāṇas, namely, *Pratyakṣa*, *Anumana*, *Śabda*, *Upamana*, *Arthapatti*, *Anupalabdhi*, *Ātīthya*, *Sambhava*, and *Chesta*

9. Some thinkers admit all the ten Pramāṇas, namely, *Pratyakṣa*, *Anumana*, *Śabda*, *Upamana*, *Anupalabdhi*, *Arthapatti*, *Ātīthya*, *Sambhava*, *Chesta* and *Parīkṣa*

Thinkers who recognise a less number of indispensable means of valid knowledge (*Pramāṇas*) try to bring the rest under one or the other of those which they admit

THE NATURE OF THE PRAMĀṆAS

Perception (*Pratyakṣa*) — Perception (*Pratyakṣa*) as a *Pramāṇa* (means of valid knowledge) is the contact of a sense-organ with its appropriate object resulting in its direct knowledge. For example the contact of the eyes with a tree, which produces the direct apprehension of the tree. The term contact is used here not in the sense of close proximity, as in popular speech but in a technical sense. It means the range of the activity of a particular sense. The range of the activity of each sense is different from that of another. The skin, for

example, reveals the tactile qualities only when the object touches the skin. But the eyes and the ears do not require their objects to come into so close proximity with them. All the schools of Indian thought recognise perception as a *Pramāna*, but the Chārvākas recognise it to be the only *Pramāna*. The Buddhists point out very emphatically that sense perception reveals to us not objects but the sensible qualities merely which cannot be expressed in words.

2. *Anumāna* (Inference).—*Anumāna* is the means of knowing some thing which is not actually perceived by the sense, by virtue of some other thing being perceived, because the latter is so connected with the former (perceived one) that wherever the former (perceived one) is present the latter (the unperceived one) must also be present. Every act of inference thus involves two things, namely, (1) perception of something which is a sign or mark of the presence of another thing and (2) remembrance of the general rule that wherever the one is present the other is also present. Both combined result in the inference that the thing signified by the sign exists where the sign exists. The general rule (*Vyāpti*), which is remembered on the perception of the sign (*linga*), has been learnt in the past through repeated experience of the co-presence (*samvaya*) and co-absence (*vyanvaya*) of the sign (*linga*) and the signified object (*linga*). For example, through repeated experience of smoke and fire being seen together, and it also having been observed repeatedly that wherever fire is not present smoke is also not present, one comes to form a conviction in his mind that wherever there is smoke there is fire. Smoke thus becomes a sign (*linga*) of the presence of fire (the *linga*). If, now, smoke is perceived anywhere and it is remembered that wherever there is smoke there is fire, the inference is irrefutable that there is fire also there, although

it is not revealed by perception. The source of its revelation is inference

Anumāna is admitted as a source of new knowledge by almost all schools of Indian philosophy. The Charvakas alone take exception to it. They say that inference may give us probable knowledge but not sure and valid knowledge. There remains a doubt with regard to the existence of the inferred object until it is verified by direct experience. No generalisation, they say, is free from limiting conditions, and there is no guarantee that what has been true in the past will be so in the future. It is really a very serious question whether inference gives us any new knowledge. In all inferences we remain within the field of our knowledge previously acquired through perception. This kind of inference, which we have illustrated above, and which is the kind of inference admitted by the Indian logicians, is at its best, a kind of remembrance and expectation. If there is anything new and previously unknown it is the presence of the signified object in the place (*pakṣa*) where the sign is observed. It is this knowledge which is newly produced and of which the peculiar cause has to be sought for. The peculiar cause of this knowledge is inference (*Anumāna*). Hence it is regarded as a source of new knowledge by Indian logicians.

3 *Upamāna* (Comparison) as a source of knowledge admitted by Indian logicians is not the same as 'Analogy' of the Western logicians. It has a much restricted sense. An example, which is the stock example of all Indian logicians, will illustrate the sense in which we have Comparison as a source of new knowledge. A man has heard the name *garaya* but does not know which animal is denoted by this term. He is anxious to know the animal called *garaya*. A forester who knows the animal tells him that the *garaya* is an animal like

sary presumption of some fact previously unknown, without which a known fact could not have been possible. For instance, when we get up from the bed in the morning and find the whole ground and things on it wet, we presume that it must have rained last night. Or, to take a more hackneyed example, 'Devadatta is stout, but he eats nothing during the day; it must therefore be presumed that he eats at night.' To take another example, 'A is known to be living, but he is not at home, it must therefore be assumed that he is gone out'. *Ārthāpatti* is a kind of a necessary hypothesis without which some known fact cannot be understood to be possible. The Naiyāyikas regard this kind of presupposition as merely an inference, for here we pass from a perceived thing to an inferred one through a relation which is known to be invariable.

6 *Anupalabdhi* (Non Apprehension).—The Vedāntists and some Mīmāṃsakas propose a sixth kind of *Pramāṇa*, namely, *Anupalabdhi*. *Anupalabdhi* is the source through which we apprehend the non-existence (*abhava*) of objects, particularly, the absence or non existence of knowledge. For example, the knowledge that there is no inkpot on the table or that I do not know what I am. This kind of knowledge is taken as perceptual knowledge by the Naiyāyikas, but the Vedāntins point out that it cannot be a case of perception because the object of knowledge, the absence or negation, is not in contact with any sense-organ.

So far we have dealt with the nature of the most important *Pramāṇas* recognised by the most important schools of Indian thought. We shall give below the nature of other sources of knowledge also which the popular mind as well as some thinkers admit as independent sources of new knowledge.

7. *Āuṣya* (Tradition).—*Āuṣya* is a tradition that has come from an unknown source and has been handed down from



one generation to another. Many of our beliefs are based on tradition. It is a source of knowledge admitted by the historians (*Pauranikas*). According to the *Naiyayikas* it is a kind of *Sabda*, but a *Sabda* which is not to be regarded as a *pramana*, because it is not certain whether the person from whom the tradition originated was an *apta* (speaker of the truth) or not. It is only the words of a truthful and hence reliable person that are authoritative and are a source of a new knowledge.

8 *Chesta* (Gesture) — *Chesta* or gesture is also a source of new knowledge. For example, we know that a dumb fellow is hungry by the gestures that he makes. We also come to know the thoughts and feelings of other people by their gestures and postures i.e., by their bodily expressions. The *Naiyayikas* do not regard it as an independent source of knowledge. It is a kind of inference in which a sign (*linga*) gives us a knowledge of some thing else signified by it, their relation of being the sign and the signified having been discovered through repeated experience.

9 *Parivesa* (Elimination) — *Parivesa* or Elimination is the process of knowing some thing by eliminating from a group of things those which it is not. For example it happens some time that we know a person to be somebody by eliminating others already known from the group where that person has been told to be present. The *Naiyayikas* do not regard it as an independent source of knowledge.

10 *Sambhava* (Inclusion) — *Sambhava* as a source of new knowledge consists in the process of knowing some thing on account of its being included in some other known thing. For example, when you know a knife you know the blade also which is a part of the former. The knowledge of a foot involves also the knowledge of an inch. The *Naiyayikas* do not admit as an independent *pramana*.

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CHAPTER III

KĀRAṆA (CAUSE)

It has been said above that *pramāṇa* (instrument or means of valid knowledge) is the peculiar (*asādhāraṇa*) cause (*kāraṇa*) of valid knowledge (*pramā*). But what is meant by a cause (*kāraṇa*)? We shall now consider the nature of a *kāraṇa* (cause) and its varieties according to Indian logicians

DEFINITION OF A CAUSE

A cause (*kāraṇa*) is defined in *Tarkasamgraha* as that circumstance which invariably (*niyata*) precedes (*purvavṛtti*) the effect (*kārya*). Here the word *invariably* (*niyata*) is used to exclude all accidentally preceding things or activities which have no essential part to play in the production of the effect and hence should not be included among the causes or essential conditions of the effect. Nothing which *accidentally* happens to precede the occurrence of an event can be its cause. For instance, the occasional presence of the weaver's children when a cloth is being woven by him should not be regarded as an essential condition of the production of the cloth, for, the cloth would have come into existence even when the children of the weaver were not by his side. In the same way a potter's ass which fetched the clay of which a pot is made, cannot be regarded as one of the causes of the pot, for the simple reason that it is not an invariable factor in the production of the pot, because the clay can be brought by other means as well, e.g., a cart or a servant.

Neglect of this important condition of causality is greatly responsible for the innumerable superstitions and the

yathāsiddhātve sati”(अनन्यथासिद्धत्वे सति), which may be rendered as “provided the antecedent is not remotely or indirectly (through another agency) connected with the effect”. A literal translation of the word “*ananyathāsiddha*”, which is a very important qualification of a cause, may be “proved to be not otherwise connected”, i.e. directly and immediately connected. Some scholars have rendered it as “not made out to be otherwise than indispensable” or “not made out to be such as one can do without”.

Thus, the cause must not only invariably precede the effect, it must also be in immediate or direct relationship with it and should never be proved to be otherwise than indispensable. That is, a cause is that circumstance which precedes the effect and has an immediate influence in the production of it. This definition of a cause corresponds to a certain extent to the definition given by J. S. Mill, the father of modern Inductive Logic: the cause is the unconditional and invariable antecedent of the effect.

FIVE TYPES OF ANYATHĀSIDDHI

In the above mentioned definition of cause, viz., “*ananyathā-siddhātve sati kārya-niyatapūrvavaritī kāraṇam*” (अनन्यथासिद्धत्वे सति कार्यनियतपूर्ववृत्त कारणम्) (*Tarkasamgraha*), which is the same as “*yaṁ kāryat pūrvā bhāto niyataḥ ananyathāsiddhaścha tat kāraṇam*” (यस्य कार्योत्पूर्यभावो नियतः अनन्यथासिद्धस्तत् कारणम्) (*Tarkabhāṣa*), the word *ananyathāsiddha* (not *anyathāsiddha*) is very important. The modern Indian logicians have, therefore, discussed in details all the possible ways in which a circumstance can be *anyathāsiddha* (dispensable or remotely connected) in relation to an effect, although it may invariably precede the latter. Usually five varieties of dispensable antec-

dents are mentioned. Examples of the five kinds of dispensable circumstances are (1) an *aks* in relation to the production of a pot, (2) the potter's father with reference to the pot, (3) *akasa* (ether) in relation to the pot, ether being eternal and all pervading, has nothing particular to do with the pot, (4) the colour of the threads with reference to the cloth made of them, and (5) the generic characteristic of threads in relation to the cloth made of them. In general, these circumstances are about

THE METHOD OF DISCOVERING CAUSES

Inductive methods of *anvaya* (agreement in presence) and *vyatireka* (agreement in absence) repeatedly used can be our only guide in knowing what is indispensable or otherwise. Our repeated experience must show that whenever the cause precedes, the effect follows (*anvayaśāhachara*—the invariable sequence between the positive occurrence of two things) and that whenever the cause does not precede, the effect does not follow (*vyatirekaśāhachara*—the invariable concomitance between the absence of two things). Unless these two conditions are fulfilled no circumstance can be regarded as a cause of an effect. If this twofold principle of inductive discovery of causes is strictly followed, many of the so-called causes of the familiar effects would be eliminated. Three of J. S. Mill's 'Inductive Methods', namely, the Method of Agreement, the Method of Difference, and the Joint Method of Agreement and Difference are evidently derived from a similar formula of causality. From Mill's definition of cause as "the invariable and unconditional antecedent" it follows, "Whatever antecedent can be left out, without prejudice to the effect, can be no part

is the transformation of milk into curd. We may add the transformation of ice into water and that of water into vapour.

This Sāṃkhya doctrine of *satkāryavāda* is accepted by the Vedāntists also. The *Advaita Vedānta*, however, goes still deeper into the problem. It holds that not only the effect is a manifestation or appearance of what we call the material cause of the effect, but the latter also in its turn is a manifestation or appearance, so that causes and effects are both appearances connected by way of unconditionally invariable antecedence and consequence. The Buddhists also subscribe to such a view. Cause and effect are phenomenal appearances, according to Buddhism, but the appearance called cause must totally cease to exist or come to non being (*asat*) before the appearance called effect jumps into a momentary existence. *Asaṃsat jāyate*—it is from non being that beings come out. The Advaita Vedāntists do not agree with the Buddhists on their doctrine of non being (*śūnyavāda*). They, on the other hand, hold that the appearances are not the appearances of non being (*śūnya*) but of some being which underlies the appearances. Take the instance of vapour-water-ice chain of appearances. Here the underlying reality X appearing as vapour is changed into water on account of the influence of accessory causes on it, and so also X appearing as water is changed into ice. Vapour, water and ice are really the forms in which their underlying essence X successively appears. The change is only a change in the forms, X remains unchanged throughout. This view is called *Vivarta-vāda*, the doctrine of appearances. According to the Advaita Vedāntins the phenomenal world consists of the names and forms of the underlying real Substance called Brahman by them. Within the sphere of the phenomena the doctrine of *pariṇāma* (transformation) holds good, but when we think of the relation of the appearances with the Substance

underlying them, which is their real material (*upadana*) cause, we are led to the doctrine of *avartā* (appearance)

The problem of causality is as alive today as it was ever
 L. r. Corresponding to the three views pointed out above, J. a. we have

informa

n of the

tion and Manifestation An impartial
 three views will bring us to the conclusion that there is some
 truth in every one of them They are all right from different
 points of view (*anekantavada* of Jainism) Every appearance
 as *such* is unique and does come into existence anew It was
 surely non-existent before it came into existence Every
 moment we see new things coming into existence There was
 no Benares Hindu University as *such* a few years ago It is
 needless to give other instances In fact all that we see around
 us has been produced created or brought forth by efficacious
 causes Collocation of causes generates new qualities new
 forms and new functions And the interests of the common
 man are confined to qualities and forms only The potter
 creates a new jar and thereby earns his living the customer
 needs a new jar and so he pays for it The jar as *such* never
 existed before it was created by the potter Hence the Naiya
 yikas are right in holding the *arambha* (creationism or
 emergence of new qualities) The science of Chemistry sup
 ports them if any support in addition to the evidence of every
 day experience is needed Water as *such* never existed before
 the atoms of hydrogen and oxygen combined together in a
 certain proportion The peculiar qualities of salt are never
 found in its constituent causes, sodium and chlorine when
 they are kept apart

The Samkhya view *parinama* or *samhara* is an
 out-come of a different approach to the problem It does not

look at the world from the point of view of appearances, but from the point of view of material realities capable of appearing in those forms. It starts from the *apriori* logical principle that something cannot come out of nothing. Whatever appears must have existed previously, although not in the present form. Causes are only the effects in potentiality. The truth of this view is also corroborated by experience and supported by physical sciences. Scientific principles of "Indestructibility of Matter", "Conservation of Energy", "Quantitative Identity of Cause and Effect" and "Uniformity of Nature" combined with the Darwinian and Spencernian view of "Evolution" lead us to a view of causality akin to that of *Sāṃkhya*.

The Vedantists, accepting the *Sāṃkhya* view so far as the phenomenal world is concerned, look at the problem from a deeper point of view, that of ontology. There can be no meaning in the statement that the cause has changed or transformed into the effect and that the effect is the same as the cause in another form, unless the essence of both the cause and the effect is a common substance X underlying unchanged both the cause and the effect. It is that X which appears now in the form of the cause and now in that of the effect. But from the point of view of X both the cause and the effect are appearances of X. Hence the doctrine of *vicāra*.

THREE KINDS OF CAUSES

Causes are of three kinds according to the *Naiyāyikas*, namely, *Samavāyi*, *Asamavāyi* and *Nimitta*.

THE SAMAVĀYI KĀRANA

(1) The *samavāyi kāraṇa* (the material, constituent or 'inherent' cause) is that in which the effect produced inheres, i.e., is so intimately connected or identical with it that it cannot

be separated from the cause without losing its own existence. It is that common factor between the cause and the effect which is identical or substantially the same in both of them. For instance, the clay in a jar, the wood in a table, or the threads in a piece of cloth are the material or constituent causes of the jar, the table and the cloth respectively. The effects, the jar, the table, and the cloth inhere respectively in the clay, the wood and the threads of which they are made, and are so intimately related with them that they cannot exist if separated from their cause. Of course, there are many other things that are required for the production of these effects and are thus indispensable antecedents, and therefore, causes of the effects, but the relation of clay etc. to a jar etc. is of a unique kind which is called *samavaya* (inherence) in the Nyaya school of thought.

SAMAVAYA

According to the Naiyayikas things may be related in two ways, namely, *samavaya* (inherence of inseparable nature) and *samyoga* (mere union or contact).

By *samavaya* is meant that relation between two things by virtue of which one thing must inhere in the other thing so long as the former is not destroyed. It is therefore a peculiar kind of relation to be distinguished from the mere contact (*samyoga*) between two things either of which can exist separately.

The things related by the way of *samavaya* are technically called *avastasiddha* (i.e., never proved to be separated). Such things, according to Nyaya are the whole and its parts (*avayava* and *avayava*) the substance and its qualities (*dharma* and *guna*), movement and the moving thing or action and its agent (*kriya* and *kriyaka*), the community or the genus and the

individuals or the species (*jāti* and *vyakti*) and the eternal substances and their peculiarities (*nitya dravya* and *vīśeṣa*). These are the only cases of objects related by the relation of *samatāya*. Each of these pairs is such that one of the two objects in the pair cannot be separated from the other.

It is on the ground of the relation called *samatāya* that the Naiyāyikas say that a substance is the *samavāyi kāraṇa* of its attributes.

THE ASAMAVĀYI KĀRANA

(2) The *Asamavāyi kāraṇa* (non-inherent, non-material or non-constituent cause) is defined in *Tarkasamgraha* as "that which contributes to the production of the effect while co-inhering with the effect in its material cause". For example, the union of the threads is the *asamavāyi* cause of the cloth, and the colour of the threads is the *asamavāyi* cause of the colour of the cloth. The union of the threads which inheres in the threads is an invariable and indispensable antecedent of the cloth and hence a cause of it. But it is not the inherent cause of the cloth, threads being its inherent cause. Hence it is the non-inherent (*asamavāyi*) cause. The union of the threads is an attribute of the threads, and so, according to Nyāya it inheres in them in the same way as cloth inheres in them. The union of the threads is not in *samatāya* relation with the cloth, but with the threads, hence it is regarded as a non-*samavāyi* cause of the cloth. Similarly the colour of the threads is an *a-samavāyi* (non-inherent) cause of the colour of the cloth, for although it contributes to the production of the colour of the cloth and hence is a cause of it, it inheres in the threads and not in the colour of the cloth. Qualities according to Nyāya inhere in things and not in qualities.

THE NIVITTA KARANA

(3) The *Nivitta* (Occasioning, efficient, instrumental or general) *Karana* is a cause which is other than both the *samaraya* and the *asamaraya* causes. As for instance, the weaver, the loom and the shuttle, etc., are the *nivitta* causes of the cloth.

Of these kinds of causes the *samaraya* cause must always be a substance (*dravya*), as no other category (*padārtha*) is capable of being a seat of inherence (*samaraya*) according to the Naiyayika. The *asamaraya* cause may either be a quality or an action and nothing else, the *nivitta* cause, however, may be anything, a substance, a quality or an action.

CRITICAL REMARK ON THE DIVISION

The term a *samaraya Karana* is not very accurate in this connection. For, it literally means a cause which is not connected with the effect by the relation of *samaraya* (not *samaraya*) and thus should include in its denotation the *nivitta Karana* also. For they too are not connected with the effect by *samaraya* relation. Moreover, according to the division by dichotomy there cannot be any other species (the *nivitta* causes) of cause than the two, the inherent and the non-inherent. The two must exhaust the universe of discourse. The division given above can be free from this logical difficulty only when we take it as a case of a continued division in two steps. Thus, causes may be first divided into those which are separable from the body of the effect and those which are not separable from the effect. The separable ones are the *nivitta* causes. The inseparable ones may further be divided into two classes, the *samaraya* (inherent) and the a *samaraya* (non-inherent).

In other schools of thought, the *asamavāyi* cause is not recognised as distinct from the cause called *samavāyi* by the Nyāya-Vaiśeṣika thinkers. Both the *samavāyi* and the *asamavāyi* causes of theirs are classed under one head, namely, the *upādāna kāraṇa* (the material or the constituent cause) by the Sāṃkhya and Vedānta Schools. It is the cause which with its qualities is present within the effect. The effect is made of it, as we say. All other causes that operate on the material out of which the effect is made to produce the effect, are classed under the other head, namely the *nimitta* causes, in the same way as is done by the Naiyāyikas.

THE KARANA

Of all the causes that bring about an effect some are common to many effects. They are called the *sādhāraṇa* causes. But some cause is peculiar to a particular effect. This cause may be called the *asādhāraṇa* (peculiar or uncommon) cause. For example, the existence of the Self, its contact with the mind (i.e., attention) and the reality of objects are common causes of all knowledge. But there is an additional cause which is necessary for the production of perception (*pratyakṣa*), namely, the contact of the senses with the objects of perception. This cause, sense-contact, is not common to other kinds of knowledge, like the inferential or that produced by verbal testimony, but is a cause peculiar to the perceptual knowledge only. Such an uncommon or peculiar cause is called *kāraṇa* in *Tarkasamgraha*. "Of these three kinds of causes, only that is called an instrumental cause (*kāraṇa*) which is peculiar". (तदेतत्त्रिकारणमष्टये यदसाधारणं कारणं तद्व्यकरणम्). Keśavamisra in his *Tarkabhāṣā* defines *kāraṇa* as "a cause which is most effective (*sādhanatamam otīṣayitam sādhanam* or *prakṛtiyam*) in bringing about the effect". Annambhatta

probably means the same by the word *asadharana* (peculiar). The *Nyayabodhini* commentary on *Tarhasamgraha* puts an additional qualification before the word *asadharana*, namely, *vyaparitat* (effectively active). *Karana* according to this definition (*vyaparitat asadharanam karanam*) would mean that efficient peculiar cause which directly and immediately brings about the effect by its own action. That is, it is that peculiar factor among the causes which, other causes being present and operative, immediately brings about the result by its own activity, and for want of which the other causes will not be sufficiently effective in producing the desired effect. Such a cause is different with different effects. Hence it is a 'peculiar' cause. The Neo-Naiyayikas, therefore, define *karana* as "a cause which is most necessary for producing the effect and without the activity of which the effect is not produced in spite of other causes being present" (*phalayogavya vachchhin nam karanam karanam*). This definition is the best of all the previous definitions. According to it the *karana* corresponds to what is called a *proximate cause* in the West.

Thus, according to the older Naiyayikas a potter's stick (*danda*) is the *karana* of the pot produced by the potter, because it is a peculiar thing which he uses in producing the jar and without whose rotating work on the wheel the pot cannot be produced. In the same way a sense-organ is the *karana* in the sense that by its contact with the object it brings about the perceptual knowledge of the object. Sense-organs are in contact with the object known only in perceptual knowledge. Hence their peculiarity to perceptual knowledge. But according to the definition of *karana* given by the Neo-Naiyayikas it becomes really difficult to say what the *karana* may be in a case. The potter's stick may be considered a *karana* in the case of a pot, or the rotation of the potter's wheels or the union of the component parts of the pot.

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CAUSES OF PRAMĀ

In case of *pramā* (right knowledge), the *samavāyī kāraṇa* is the Self, the *asamavāyī kāraṇa* is the contact between the Self and mind and the sense-organ concerned (if it is concerned at all). The *nimitta kāraṇa* is the object of knowledge. Of these causes the contact of the Self, mind and organs is the *karana* of *pramā*. It is called the *pramāṇa* (*pramā-karanam*). Without the contact of the Self, the mind and the sense-organs (if it be perception), there cannot be any knowledge even though the Self and the object both may be present.

CHAPTER IV

PERCEPTION (PRATYAKṢA)

Perception (Pratyakṣa) is a term used both for the direct knowledge acquired through the agency of the sense organs (*jñanendriyas*) and for the special means (*pramāṇa*) through which this kind of knowledge is acquired

Perception (*Pratyakṣa*) as knowledge is defined in *Tārāsamgraha* as "that knowledge which is born of the contact of the senses with the objects

The term contact is not to be understood in the literal sense of close proximity but in the technical sense of the range of activity of the various senses as has been pointed out already in Chapter II

The contact of the senses with the objects is the peculiar cause of perceptual knowledge because other causes, like the presence of the objects, activity of the Self and the mind and absence of obstructing conditions are common to perception and other forms of knowledge. It is only the contact of the senses with the objects that is peculiar to this kind of knowledge as distinguished from other forms of knowledge

WHAT DOES PERCEPTION REVEAL?

There has been a great deal of controversy as to what contents of our knowledge are given in perception, both in India and the West

The Common sense, which is only a name for uncritical and naive view of things holds that perception reveals almost all that we know about the object. When a child sees a

cinema show he believes that he is face to face with the real life and perceives real objects and persons with all the varied qualities which they have in the real life

But if we critically analyse the perception, we shall find that what the contact of our sense organs with the objects present gives us is only white and black colours and sounds (in case it is a talkie). The rest of the things that we are said to be perceiving are contributed by the mind in the form of memory images. My visual perception of ice gives me only a patch of white colour, but I know it to be ice and feel it to be very cold. This name and this feeling of cold are not born of the present contact of eyes and the patch of white colour. They are past impressions of the mind added to the patch of white colour. So, what the mere contact which operates in the perception gives us are the sensible qualities revealed by the senses which are in actual contact with the objects. If, therefore, we wish to keep memory and perception apart, as the Naiyāyikas do, we shall have to say that perception gives us bare qualities.

The Western psychology has freed itself from this confusion by keeping the word 'sensation' apart for the cognition born of bare sense-contact and using the word perception for the whole knowledge of an object in which sensation and memory images of various kinds are indissolubly mixed and synthesised. Absence of this distinction has given rise to the division of opinion as to what is revealed in *pratyakṣa*.

The Buddhists, for example, hold that in perception we are face to face with the mere objective form or quality given at the moment of perception. It is free from all the describable determinations like name, class, relation, etc. There cannot be any question with regard to its validity or invalidity as the knowledge is free from all determinations.

But, the Nyaya view is different from this view, as it appears from the two divisions it makes of perception, namely, the *nirvikalpaka* and the *savikalpaka*, the former being akin to the Buddhist view of perception or to that of "sensation" of the modern psychology. But some Naiyayikas seem to have realised the point and therefore have defined perception as "the immediate awareness of an object, which is free from doubt, error, and name, brought about by the contact of a sense with its object". This is what is considered as the *nirvikalpaka pratyakṣa* by the Naiyayikas in general.

TWO KINDS OF PERCEPTUAL KNOWLEDGE

According to the Naiyayikas, as pointed out above, there are two kinds of Perception (*Pratyakṣa Jñāna*), namely, the *Nirvikalpaka* and the *Savikalpaka*.

The *Nirvikalpaka Pratyakṣa* (Indeterminate Perception) is that which reveals merely the sensible object without any further information about it with regard to its genus (class) name or qualities which are not actually sensed. It is what William James calls 'the mere acquaintance', or Stout calls 'anoetic consciousness', or what is generally called 'Sensation' in modern Psychology. We cannot say what the object that we are perceiving is, we can only say that we are perceiving 'something' but what it is we do not yet know.

The *Savikalpaka Pratyakṣa* (Determinate Perception), on the other hand, is that perception which reveals to us the qualities, the genus and the name of the object perceived. It is what is called 'Perception' in modern psychology, 'noetic consciousness' by Stout and 'knowledge about' by James. It is quite evident that much of the information given in this kind (determinate) of perception comes from memory and not from the contact of the senses with the object. Hence

the Buddhists do not recognise this kind of knowledge as perceptual knowledge

Some Naiyāyikas do not regard the two (*Nirvikalpaka* and *Savikalpaka*) perceptions as the two kinds of perception, but only as two stages in the perceptual process. At the first stage, the knowledge of the object in contact with the sense is inarticulate and vague. At the second stage, it becomes articulate, definite, and capable of being described and named.

There are some logicians who point out that there is a third stage also in the full perceptual knowledge of an object, namely, the *Hānopādano-pekāśabuddhi*—the sense of the object being desirable, undesirable or indifferent. This sense dawns upon the mind of the perceiver when the second stage, the *savikalpaka* perception is over. This further cognition refers to the practical relation of the object to the Self.

There is no doubt that according to the Common Sense, and generally speaking, all these facts are revealed in perception, but the source of their knowledge is not the present contact of the sense with the object, but the impressions of the past experience which get revived on account of association with the quality sensed at the moment. Hence the knowledge of the qualities, attributes or relations that are not in direct contact with the sense at the present moment, cannot be called perceptual knowledge, if perception is to be defined as the new knowledge born of sense-contact with the object. According to the Naiyāyikas, we must not forget, all knowledge due to the past impressions is remembrance (*smṛiti*). How can therefore the knowledge of the qualities, attributes or relations which are in direct contact with the sense, be regarded as *anubhava* (experience), not to say anything of *Pratyakṣa* (Perception)?

The *Samānya-lakṣaṇa pratyakṣa* is the perception of the *jāti* or the genus of an object. When, for example, in seeing a particular cow, we are aware of the generic nature of cows, the perception is called the *sāmānya lakṣaṇa pratyakṣa*.

The *jñāna-lakṣaṇa pratyakṣa* is that perception in which we are directly aware of a quality of an object, which is not in contact with the sense operative in the percept, or when one percept revives another percept at the same moment. For example, when we perceive a piece of ice from a distance we sometimes feel its coolness also. The coolness of the piece of ice is not revealed through the sense of sight operative here. Hence the perception is an extraordinary one.

The *Yogaja Pratyakṣa* is the extraordinary and supernatural perception of the yogins who can directly know events of different times and objects at great distances which cannot be in contact with the senses.

The general name given to all the extraordinary perceptions is *Pratyāsatti*.

SIX KINDS OF CONTACT (SANNIKARSA)

The contact of an object with a sense organ which gives us the direct knowledge of the object is called *sannikarsa* by the Naiyāyikas. It is of six kinds according to them, namely, *Sanyoga*, *Sanyukta-samavāya*, *Sanyukta-samīta-samavāya*, *Samavāya*, *Samīta samavāya*, and *Vīśeṣaṇa-vīśeṣa-bhāva*.

1 *Sanyoga*—*Sanyoga* (Conjunction) is the name of the contact between the sense and the object when we are aware of a concrete object, like a jar, a man, a woman or a horse etc. The name is based on a relation, *sanyoga*, which means a temporary union of two things which can be separated, and are separated in course of time. The object of perception, whatever it may be, is not in a permanent contact or union with the sense that perceives it. The sense and the object are

separable Hence they are said to be in the relation of *sanyoga* to each other

2 *Sanyukta samavaya*—*Sanyukta-samavaya* (Inherence in that which is conjoined) is a double contact which operates in the perception of some thing which is in permanent union (*samavaya*) with the object which is in separable union (*sanyoga*) with the sense organ *Samavaya* is the name given to a permanent union or inherence of some thing with or in some other thing as long as the former exists The qualities are said to inhere in the things qualified, because as long as qualities exist they must exist in the things qualified by them. They cannot exist apart from them In the same way the genera inhere in the individuals and effects inhere in their material causes In perceiving the qualities and the genera of objects we thus have what may be called a double contact, namely, *sanyukta samavaya* The object in which we perceive its quality or genus is in *sanyoga* (separable union) with the sense of sight and its quality or genus is in *samavaya* (inseparable union) with the object For examples, in perceiving the colour of a cloth there is the *sanyukta samavaya sannikarsa* involved

3 *Sanyukta samaveta-samavaya* — *Sanyukta samaveta samavaya* (Inherence in the inherent with that which is conjoined) is a triple contact involved in the perception of those things which are in inseparable union with the things perceived by the preceding contact, the *sanyukta samavaya* For example, when we are directly aware of colour in general (*rupasamanya*) when a coloured cloth is before us, the contact between our eyes and the genus of the colour apprehended by us is threefold, viz., (1) *sanyoga* (separable union or conjunction) of the eyes with the cloth, (2) *samavaya* (inherence or inseparable union) of the particular colour of the cloth with

the cloth which is in conjunction with the eyes, and (3) *samavāya* of the particular colour of the cloth with the genus of colour (colour in general). The cloth is conjoint with the eyes (*sanyukta*), the colour of the cloth is *samaveta* with the cloth and the genus of colour is in *samavāya* with the colour. Hence the complex contact is called *sanyukta samaveta-samavāya*.

4. *Samatāya*—*Samavāya* (Inherence) is the contact in-

according to them is an inherent attribute of *ākāśa*. Hence when sound is perceived by the ear, it is its own quality in contact with the *ākāśa* of the ears. The relation between a substance and its quality being *samavāya*, the contact involved in the perception of a sound by the ears is called *samatāya*. Sound may have been produced at a distance, but it is apprehended only when it is propagated to the organ, and, when sound is perceived by the ear, it is its own quality in contact with the *ākāśa* of the ears. The relation between a substance and its quality being *samavāya*, the contact involved in the perception of a sound by the ears is called *samavāya*. Sound may have been produced at a distance, but it is apprehended only when it is propagated to the organ, and, when propagated, it is apprehended as a quality of the organ. Hence the contact *samatāya*.

5. *Samaveta samatāya*—*Samaveta-samatāya* (inherence is that which is inherent) is a double contact involved in the direct apprehension of the generic nature of sound. The generic nature of sound is in *samavāya* relation with the particular sound heard by the ears and the particular sound heard by the ears is in *samavāya* relation (*samaveta*) with the ears as

explained above. Hence the twofold contact involved in the perception of sound in general, namely, *samaveta samavāya*

6 *Visesana viśeṣa-bhāva* (the relation of qualification and the qualified) is a peculiar contact involved according to the Naiyayikas in perceiving the non-existence of an object. When we do not perceive an object, what we actually perceive is the place where the object was expected to be, or should have been, with the notion that the object is not there. This notion of the non-existence of the object is the qualification (*vīśeṣa*) of the place which is qualified (*viśeṣa*) by it. Hence our perception at the moment is the perception of the

contact in the perception of the absence of the object.

The main reason for admitting such a kind of contact seems to be the following. The non-existence of an object can not directly come into contact with a sense organ in any of the above mentioned five ways, but we cannot deny that there is a direct apprehension of the absence of particular things from particular places. How does it then take place? The Naiyayikas think that it takes place only in the manner suggested above. The Vedantists explain the apprehension of non-existence of objects by a new *pramāṇa*, called *Anupalabdhi* by them.

The doctrine of the sixfold contact is not mentioned in the work of the founder of the Nyaya school of thought, namely, the *Nyaya Sūtras* of Gautama. It is also not mentioned by the Commentator on the *Sūtras*. It seems to be a feature of the later Nyaya only.

CHAPTER V

INFERENCE (ANUMĀNA)

Inference (*anumāna*) is defined in *Tarkasāgraha* as the *karana* (indispensable means) of *anumiti* (inferential knowledge). *Anumiti* (inferential knowledge) is said to be the knowledge born of *Parāmarśa* (Consideration). *Parāmarśa* (Consideration) is the knowledge of *Pakṣadharmatā* with *Vyāpti*. *Pakṣadharmatā* (the quality of some thing being a *pakṣa*) is the fact that at some place or in some thing (*pakṣa*) a thing is present which indicates the presence of some thing else which is not actually observed. *Vyāpti* (Invariable Concomitance) is the constant association of one thing with another, so that where the one is present the other must also be present. The thing, the presence of which is observed at a place and which indicates the presence of another thing which is not observed, is called *linga* (sign), *sādhaka* (prover), *sādhana* (the means of proving) and *Vyāpya* (invariably accompanied by), from the fact that it is a sign (*linga*) or mark of the existence of some other thing, that it establishes the existence of some other thing, that it is a means of proving the existence of some other thing, and that it is that which has been found to be invariably accompanied by some other thing. The other thing, the presence of which is thus indicated, is called by the corresponding names, *lingī* (signified), *sādhya* (to be proved) and *vyāpaka* (that which pervades or accompanies), from the fact that its existence is indicated or signified by the thing observed, that its existence there is to be established or proved by the thing observed, and that it invariably accompanies the thing observed. The thing or place where the

linga is observed and the existence of the *linga* is established is called *pakṣa*

An example, which is the stock example of all Indian logicians, will illustrate what has been said above. From a distance a man happens to see a column of smoke arising from a hill. Seeing smoke there on the hill, he remembers that wherever there is smoke there is fire. He, therefore, thinks and concludes that although he does not actually see fire there, there must be fire on the hill. The knowledge that there is fire on the hill is *anumiti* (inferential knowledge). Its *karana* (peculiar cause) is the *anumana* (inference) made here, which consists in the *Paramarśa* that on the hill is present smoke which is invariably accompanied by fire. The hill is a *pakṣa* and the presence of smoke on the hill is *pakṣadharmata*. The generalisation that wherever there is smoke there is fire is *vyapti*. Smoke is *linga sadhana*, *sadhaka*, or *vyapya*. Fire is *linga sadhya* or *vrāpaka*.

To put it in simpler language, inference (*anumana*) is the means by which we arrive at a knowledge of some thing which is not in direct contact with or range of our senses, by virtue of some other thing being perceived which has been in the past found to be invariably accompanied by thing not perceived. It gives us an indirect (*parakṣa*) knowledge only. It corresponds to that mediate inference which is called Syllogism in Western Logic. The conclusion of a syllogism is the *anumiti* (inferential knowledge). The major premise (of a syllogism in the figure I) corresponds to *vyapti* and the minor premise to *pakṣadharmata*. The major and the minor premises considered together are what is called *Paramarśa* (Consideration). The middle term is the *linga*, *sadhana*, *sadhaka*, or *vyapya*, the major term is the *linga*, *sadhya* or *vrāpaka*, the minor term

is the *pakia*. There is thus a great deal of similarity between the Indian *Anumāna* and the Western Syllogism.

TWO KINDS OF INFERENCE

Inference is of two kinds according to *Tarkasāgraha*, viz., (1) The inference for one's self (*Swārthānumāna*) and (2) The inference for the sake of others (*Parārthānumāna*).

The *Swārthānumāna* consists of the following steps:—

(a) The formulation of a *vyūpti* by repeated observation of invariable co-presence, or co-absence, or both, of two things. For example, by having repeatedly observed that wherever there is smoke there is fire, and wherever there is no fire there is no smoke, one comes to formulate a rule that smoke is always accompanied by fire.

(b) The perception of that which is always accompanied by some other thing, at some place. For example, the perception of smoke on a hill.

(c) The remembrance of the general rule that wherever the thing perceived is present another thing is invariably present. For example, the remembrance of the generalisation that where there is smoke there is fire.

(d) The consideration that here we are perceiving the same thing that is invariably accompanied by some other thing. For example, the consideration that on the hill we are perceiving the same kind of smoke that is always accompanied by fire.

(e) The conclusion that the thing, the presence of which is indicated by the sign (*liṅga*) is present where the *liṅga* is present. For example, there is fire on the hill.

Having obtained an inferential knowledge in this way himself, if one wants to convince another person of the fact,

or to communicate the knowledge to him in a convincing manner, he has to put it in such a demonstrative manner as will not leave any ray of doubt in the mind of the other person. This demonstrative presentation of an inference to convince another person is called *Pararthanumana* (inference for the sake of others)

The *Svarthanumana* may be regarded as the primary and the psychological process of inference while the *Pararthanumana* is the secondary and logical process. The latter presupposes and is based upon the former and is only a formal expression of it

THE FIVE PARTS OF A PARARTHANUMANA

The *Pararthanumana* consists of five parts, members or propositions (*avayavas*)¹ They are (1) a proposition, (*Pratijna*), (2) a reason (*Hetu*), (3) an example (*Udaharana*), (4) an application (*Upanaya*), and (5) a conclusion (*Nigamana*)

1 A *Pratijna* (Enunciation or Proposition) is the statement of what is to be demonstrated (*sadhya nirdeśa*) Eg., 'there is fire on the hill'

2 A *Hetu* (Reason) is the statement of the presence of the mark which enables us to establish the existence of the *sadhya* Eg., 'Because there is smoke on the hill'

3 An *Udaharana* (Example) is the statement of the generalisation (major premise—*vyāpti*) on which the inference is based with an example Eg. 'Wherever there is smoke there is fire, as in a kitchen'

4 An *Upanaya* (Application) is the statement in which the general rule is applied to the particular case in hand Eg. 'The smoke on the hill is the same kind of smoke as is accompanied by fire'

5. A *Nigamana* (Conclusion) is the statement that the existence of the *lingi* is established in the place (*pakṣa*). E.g., "There is, therefore, fire, on the hill."

These five parts (*avayavas*) make up a complete demonstrative inference (*Parārthānumāna*) or syllogism, according to the *Naiyāyikas*. There is no doubt that they make the process very clear and leave no doubt in the mind of the person before whom the argument is placed. It is in this form of a demonstrative inference that all the theorems of Euclid are written.

Some logicians, however, think and they seem to be right in thinking, that the number of the propositions of the syllogism can be reduced to three without doing any harm to the clear demonstrativeness of the syllogism. There is hardly any difference between the *Pratijñā* (Enunciation) and the *Nigamana* (Conclusion). These are the statements of the same fact, one, when the fact is only enunciated to be proved and the other when it has been proved. The *Upanaya* (statement of application of the general rule to the particular case) also seems to be unnecessary when the Reason (*Hetu*) and the Generalisation (*vyāpti*) have already been mentioned. Thus we are now left with only three propositions or *avayavas* (parts of syllogism), namely, (1) either *Pratijñā* (the statement of what is to be proved) or *Nigamana* (the statement of what is inferred—Conclusion), (2) *Hetu* (the reason) or the statement of the reason or ground of inferring the fact, and (3) the *Vyāpti vākya* or the statement of the generalisation with an example, technically called the *Udaharana* (Exemplification). So, there is a tendency in the later *Naiyāyikas* to hold that only three *avayavas* (propositions or parts or members) are sufficient for a demonstrative inference. These three are the *Pratijñā*, the *Hetu* and the *Udaharana*.

These three propositions correspond to the Conclusion, the Minor Premise and the Major premise of the Western Syllogism. There is only a difference in the order in which they are placed in the Indian and the Western syllogism, although the latter is not very particular about the order. In the Indian *Parārthanumana* we have first the *Pratijna*, then the *Hetu* and then the *Udaharana*. In the Western Syllogism we generally have first the Major Premise which corresponds to the *Udaharana* then the Minor Premise which corresponds to the *Hetu* and then the Conclusion which is the same as the *Pratijna* with the addition of "therefore"

According to the Western logicians all the three propositions are not always stated in practical thinking. One of them is generally suppressed. It is stated only when we have a complete syllogism for the sake of examining its formal correctness. The suppressed proposition may be any of the three. The syllogism is then called an Enthymeme. In India too the Vedantins, the Mimamsakas, the Buddhists, and the Jains think that in usual thinking only two *anayas* are sufficient for an inference, namely, the *Pratijna* and the *Hetu*. The *Hetu* they think, implies everything required by an inference. It directly suggests the *vyapti* which may be stated if required for the sake of greater clearness.

ANUMANA AND SYLLOGISM

The comparison of the *Parārthanumana* with the Aristotelian syllogism should not lead the student to believe that they are absolutely identical in nature. There are marked differences between the two which must be carefully noted. The Indian *Anumana* seems to be more natural, practical and convincing than the Aristotelian Syllogism. In actual thinking we do not argue in the form of the Aristotelian syllogism but

in the form of Indian *Anumāna*. The distinction between the *Svārthānumāna* and the *Parārthānumāna* is a real distinction that we find in actual thinking. All our thinking, when it is inferential and when we have not to convince others is in the form of the *svārthānumāna*. It is a mixture of induction and deduction. When we have to prove something before others, either to convince them or to demonstrate our own convictions, the most natural method is to cast our thinking in the form of a *parārthānumāna*.

The order of the propositions in the *parārthānumāna* is more natural and appropriate than in the Aristotelian syllogism. It is the conclusion of our arguments that is uppermost in our minds when we demonstrate to others any inference. Unless we are clear about the point at issue, we cannot be definite and correct with regard to our reasons. There is much likelihood of committing the fallacy of Ignoratio Elenchi. It is why in all debates and in legal judgments the propositions are stated first. The most natural second step in all demonstrative and formal thinking must be the Reason (*Hetu*). When a statement is made, the truth of which is not yet established and about which there may be a doubt in the mind of the hearer, it is but natural and wise that it must be supported by a reason. In case the hearer is satisfied with the reason or he understands the relation of the reason with the statement, the demonstration ends. But if the hearer is not satisfied or the relation of the reason with the proposition stated is not clear to him, the arguer further proceeds and gives a familiar illustration of the relation, which is too clear to be questioned. While giving the example which is familiar also to the hearer, the arguer also states the relation between the *sādhaka* and the *sādhya* in general terms, so that there may not remain any trace of doubt in the mind of the hearer with regard to the capability of the

Reason to prove the Proposition (Pratijna) In case the hearer is satisfied, the argument stops there. But if he is not satisfied, or in case he is too stubborn or too deficient to understand, the arguer proceeds further and makes the actual process of inference (*paramarśa*) explicit by stating it in the form of the *Upanaya* (application). What was working implicitly in thought becomes explicit now. In the *Upanaya* it is made clear that the general relation of concomitance of the *sadhaka* and the *sadhya*, which is exemplified in the familiar and commonly accepted example, holds good also in the present case. It is some times very essential to make this fact explicit, for it is really the soul of the whole process, and the conclusion follows from it without any hitch. Hence the statement of the conclusion in the end to indicate that there is no more doubt about the truth of the proposition.

To show the difference between the two, let us put the same argument in the two forms and leave it to the reader to judge as to which is more demonstrative and natural of the two —

Aristotelian Syllogism —

All men are mortal,
Socrates is a man,
Hence Socrates is mortal

Pararthanumāna —

Socrates is mortal,
Because of his being a man,
All men have been found to be mortal in the past as
Thales and Zeno etc.,
Socrates is a man of the same type,
Hence he is mortal

In case the first two or three propositions convince the hearer the rest of the *anvayana* may be left out

Take another example, from Indian Logic:

Parārthānumāna:—

There is fire on the hill;

For there is smoke seen there,

Wherever there is smoke there is fire, as in a kitchen;

The same kind of smoke as is accompanied invariably by
fire is seen here,

Hence there must be fire on the hill.

Aristotelian Syllogism:—

All things having smoke are such that have fire;

The hill is such that has smoke;

Hence the hill is such that has fire

PURVAVAT, SESAVAT AND SĀMANYATODRISTA

From the point of view of the basis of inferring, inference has been divided into three kinds, namely, *Pūrvavat*, *Sesavat* and *Sāmānyatodrasta*. The first two of them have been interpreted in two different ways.

1. The *Pūrvavat Anumāna*, according to one interpretation, is an inference from a cause to an effect. E.g., the inference that it will rain from the observation of dark clouds and sultry weather. According to another interpretation, it is an inference on the ground of what has been observed before. (The literal meaning of "*pūrvavat*" is "as before"). E.g., the inference that there is fire on the hill, because there is smoke there, based on the past experience that wherever there is smoke there is fire.

2. The *Sesavat Anumāna* is, according to one interpretation, an inference from a cause to an effect. E.g., the inference that it must have rained from the observation of flooded rivers. According to another interpretation, it means an inference

based on the "*śeṣa*"—remainder or residue. Eg., sound is either a substance, or a quality, or an action. It is neither a substance, nor an action, therefore it is a quality. It appears to be a kind of a Disjunctive Syllogism, in which one alternative is affirmed by the elimination (denial) of other possible ones.

3 The *Samanyatodrūṣṭa Anumāna* is an inference based on the observation and recognition of the generic nature or common aspect of things. When an inference is made on the basis of some identity in otherwise different things, it is called the *samanyatodrūṣṭa anumāna*. It closely resembles the inference by Analogy in the Western Inductive Logic. Eg., colour is a quality, it resides in a substance. *Buddhi* (knowledge) is also a quality, hence it must also reside in a substance. Hence there is a soul which is the substance in which *buddhi* resides. Or, to take another example grasping is an action, it requires an instrument, namely, the hand. Seeing is also an action, therefore, it also requires the use of an instrument, namely, the eye.

This kind of inference is specially used with regard to supersensuous matters. We reason about the supersensuous matters on the analogy of what is found in the sphere of the sensuous.

ANUMITI (INFERENTIAL KNOWLEDGE)

The knowledge we acquire through the process of *Anumāna* is called *Anumiti* (inferential knowledge). It is regarded by the Naiyāvikas as a kind of *parokṣa* (indirect) knowledge, as distinguished from the *pratyakṣa* (direct) knowledge. In the direct knowledge the object known is in contact with the sense-organs (*jñānendriyas*). But the object of inferential knowledge is not in contact with the sense organs.

of the knower. What is in contact with the senses is another object, which is a sign of the presence of the inferred object. The perceived object is the sign of the unperceived one on the basis of the past experience.

Our inferential knowledge will be valid only in so far as the perceived object guarantees the existence of the unperceived one. And this depends on the correctness of the *vyāpti* (rule of concomitance). If there is any limitation (*upādhi*) under which the *vyāpti* holds good, the negligence of the condition or limitation (*upādhi*) will falsify the inference. For example, if we have come to generalise that wherever there is fire with wet fuel, there is smoke, and by observing fire only, without taking care whether wet fuel is also present along with it, we jump to the conclusion that there must be smoke in the place where fire is present, we shall be committing a mistake. (We have overlooked a very important condition or limitation (*upādhi*)). So, we should always try to see whether our generalisations are absolute or conditional.

The Chārvākas do not admit the validity of inferential knowledge, because they think that there is hardly any *vyāpti* which is not conditional. While stating the *vyāpti*, we neglect the conditions. Hence all inferences based on them are doubtful. They also say that all generalisations are only probable and uncertain. For, however careful we may be in formulating them, we cannot be absolutely certain about them. Moreover, there is no guarantee that what has been true in the past will also be true in the future. Even if a *vyāpti* is carefully arrived at by freeing it from all known conditions or limitations, there will always be a difficulty in ascertaining whether the *linga* observed is of the same nature that is invariably accompanied by the *sādhya*. Identity of the *linga*, and not similarity to it, will ensure the existence of the *sādhya*. Identity is not easy

to get. Similarity would not serve the purpose. It is said of a Charvaka philosopher that to convince his wife of the futility of inference as a source of valid knowledge, he made some marks on the ground in front of his door at night, which very closely resembled those of the feet of a wolf. The wife seeing the marks next morning, exclaimed that there had been a wolf last night at their door. The husband laughed at her belief in the validity of inference, and justified his assertion that we can never be sure that inferential knowledge is correct. There is much truth in the criticism of the Chārvakas. All our inferences must be regarded as probable until verified by actual experience (perception). Moreover, the Charvakas further point out, in case we are sure of the identity between the *linga* of the generalisation and the *linga* observed in the *pakṣa* at the time of the inference, there is hardly any new knowledge gained. It is only a kind of remembrance. In the past where the *linga* existed, the *linga* also existed. By the sight of the *linga* here we are reminded of the presence of the *linga*, because we have in the past often observed them together. A similar position has been taken by Hume in modern thought.

The only satisfactory reply that the Naiyayikas have been able to give to such an attack of the Charvakas against their position of admitting the validity of inferential knowledge, is that a generalisation is not merely based on enumeration of instances or on repeated observation of the case in which it holds good, but on a supersensible vision of an expert observer who intuitively apprehends the general principle (*vyapti*) existing embodied in particular instances. In this peculiar vision called the *Samanyalakṣaṇa pratyakṣa* (the supersensible knowledge of the universal aspect of things), the *vyapti* is apprehended directly in spite of its being found to be existing in

particular cases. The universal is not separable, but surely distinguishable from the individuals in which it always exists. In mathematics we always think in terms of the universal, but these universals never exist except in the particular individuals. The inferential knowledge is not a mere remembrance, because the presence of the *sādhya* in the *pakṣa* was not known before. What was known is that wherever the *linga* is present the *sādhya* is present. But the knowledge that the *sādhya* is present here in this *pakṣa* is absolutely a new knowledge. And it is this knowledge that matters and not the general principle. If a man takes potassium cyanide he dies is a general truth which has been definitely ascertained. No body is startled by this piece of knowledge. But when I know that a particular man has taken potassium cyanide and therefore he is certain to die, it is absolutely a new piece of knowledge. Thus inference does give us new knowledge. It is not merely the reinstatement of the past knowledge. It is not always a probable knowledge. Very often it is quite certain, and the certainty of the knowledge is in proportion to the universality and absoluteness of the *vṛtti* on which it is based.

CHAPTER VI

THE METHODS OF ARRIVING AT A VYAPTI

We have seen that in an inference the existence of a *sadhya* (major term) in a *pakṣa* (minor term) is established *only* on the ground of there being a relation of invariable concomitance (*vyapti*) between the *sadhaḥa* (middle term) and the *sadhya* (major term). If there is no *vyapti* there can be no inference. If the *vyapti* is wrong the inference will be wrong. If the *vyapti* is conditional or limited in its scope, the inference will be valid only under the condition or limitation. Hence we should have valid and unconditional *vyaptis* (generalisations) at our command in order that our inferences may be valid.

Man is a generalising animal. He generalises at every moment and at every step of his life. But most of his generalisations are apt to be invalid because he does not take sufficient precaution and care to generalise correctly. Popular knowledge consists of countless generalisations which are false. Hence there is a need of an enquiry into the most proper method of generalisation. This enquiry has developed into a science called Inductive Logic in the West. It is a very important branch of knowledge because it investigates into the correct methods of scientific thinking which is nothing more than arriving at correct generalisations about the nature of objects known by us. Correct methods of generalisation lead us to scientific knowledge which is characterised by universal and objective validity and capacity to predict correctly, whereas wrong methods lead us to superstitions which have no objective validity and which are not universally accepted.

is arrived at through this method. All knowable things are found to have been named. Only such positive instances—in which the presence of both the *linga* (knowability) and the *sādhya* (nameability) are available. There are no negative instances in which the *sādhya* (nameability) and the *linga* (knowability) are absent, available in this case. No instance can be found of the negative *vyāpti*, “whatever is not nameable is not an object of knowledge”, as whatever instances would be quoted would certainly be already objects of knowledge and stated in words (i.e. named). The *linga* which owes its *lingatva* (quality of being a *linga*) to a *vyāpti* arrived at by this method is called *kevalānvayi*. For example, in the inference “the jar is nameable because it is knowable, as whatever is an object of knowledge is nameable, as a tree”, the *linga*, “being an object of knowledge (knowable)” is *kevalānvayi*, because it is based on a *vyāpti* arrived at through the positive instances only. The *anumāna* based on the *vyāpti* discovered by this method is called the *kevalānvayi anumāna*. This method corresponds to Mill’s method of Agreement.

THE KEVALAVYATIREKI METHOD

The *Kevalavyatireki* is the method of establishing a *vyāpti* on the observation of mere (*kevala*) co-absence (*vyatireka*) of two things. The invariable concomitance here is stated only in a negative way—wherever the *sādhya* is absent the *linga* is also absent—as it is only the absence of both of them that comes under our observation. The method is called *kevalavyatireki*, the *linga* based on the *vyāpti* discovered by this method is called the *kevala-vyatireki linga*, and the *anumāna* based on such a *linga* is called the *kevalavyatireki anumāna*. To illustrate the *kevalavyatireki anumāna* the following example is given in the *Tarkasamgraha*; “Earth differs from other elements (water, air, etc.) because it has smell; that which

Of the above methods, the first, viz., the *anvayavyatireki*, has the merit of being arrived at by the observation of merely the positive instances. No real discovery is made through the third method, the *kevalavyatireki*. From the co-absence of two things in a number of instances we can infer nothing about their co-presence. This method only seems to have been formulated for the purpose of giving an air of demonstrative certainty to some universal propositions which cannot themselves be shown to be proved by more universal ones. The *vyāpti* and the *pratijñā*, however differently from each other they may be stated, are substantially the same in the *kevalavyatireki anumānas* quoted above. This is quite apparent from the fact that the one is the contrapositive of the other. The progress of thought in the inferences, quoted above, does not seem to be, as it normally should, from the *vyāpti* to the *pratijñā*. It is from the *pratijñā* to the *vyāpti*, which is only coined in order to prove the former. The proposition to be proved, in the first example, is that 'earth is different from other substances', and the *hetu* given is that 'it has smell'. Now in order to prove this, they state the same proposition only in a different form, that 'whatever has not smell is not earth'. It is on account of this reason, that many logicians do not admit the *kevalavyatireki* method.

THE VYĀPAKA AND THE VYĀPYA

When we discover an invariable concomitance (*vyāpti*), we find that the extension of the *linga* and the *sādhya* is not always the same. It very often happens that the *sādhya* is more extensive or pervasive than the *linga*, although it has been observed to be present wherever the *linga* is present. Our observation does not guarantee against the existence of the

sadhya without the *linga* Eg It is true that wherever there is smoke, there is fire, but fire may be found to be present where there is no smoke. This is the reason why the *sadhya* is also called the *vyapaśa* (the pervader) and the *linga* is called the *vyāpya* (the pervaded) The major, middle, and minor terms of Western Logic are also called so on account of the same reason

UPADHI

The *linga* should be in invariable concomitance with the *sadhya* unconditionally In case there is any condition (*upadhi*) under which alone the *linga* is in concomitance with the *sadhya*, the *vyapti* should be stated with the condition (*upadhi*) If not so stated, the inference based on the *vyapti* will not be always valid An example of a conditional *vyapti* is that wherever there is fire with wet fuel there is smoke Here being accompanied with wet fuel is the *upadhi* (condition) It is under this condition or within this limitation alone that we can infer the existence of smoke from the observed existence of fire In this inference smoke is the *sadhya* fire is the *linga* and wet fuel is the *upadhi* It is evident that in such a case the *upadhi* always accompanies the *sadhya* but does not always accompany the *linga* Hence some logicians have defined *upadhi* as 'that which constantly accompanies the *sadhya* but does not always accompany the *sadhaka* (*linga*)' Wet fuel always accompanies smoke which is the *sadhya* here, but does not always accompany fire, which is the *sadhaka* or *linga* in this *vyapti*—'wherever there is fire with wet fuel there is smoke'

The condition is of two kinds namely, that of which we are sure, and the other of which we are not sure but which we suspect. Some times there is a condition of which we are

neither sure nor suspicious. It is due to the last kind of condition that some of our generalisations of which we are certain happen to be falsified by subsequent experience.

SAPAKŚA AND VIPAKŚA INSTANCES

In the *Anvaya-vyatiरेki* method of establishing a *vyāpti*, we find that there are two sets of cases observed. One, in which the *līga* and the *sādhya* are found to be present together, and the other in which both of them are found to be absent together. The former are technically called the *sapakśa* (similar) instances, and the latter the *vipakśa* (contrary) instances, with reference to the *vyāpti*. The *sapakśa* instances of the *vyāpti*, wherever there is smoke there is fire, are a kitchen, a railway engine, a factory, and an oven etc., where there are smoke and fire, and the *vipakśa* instances are, a lake, a study-room, a library, and a drawing room etc., where there is neither fire nor smoke.

CHAPTER VII

THE ESSENTIAL CHARACTERISTICS OF A VALID LINGA

We have seen that the *linga* is of three kinds namely, the *anaya-vyatiṛekī*, the *keralanaya* and the *keralavyatiṛekī*. Let us now note the essential characteristics that every *linga* must possess in order that it may be valid.

The *anaya-vyatiṛekī* *linga* must possess the following five characteristics in order that it may become capable of establishing a *sādhya* —

(1) *Pakṣadharmatvam*—presence in the *pakṣa*. The *linga* must be found to be present in the subject (*pakṣa*) about which the inference is to be made i.e., in which the existence of the *sādhya* is to be established. As for example to infer that a hill has fire, the *linga* namely, smoke must be known to be actually present in the hill. If not, the inference would not be possible.

Violation of this condition gives rise to the defect called *asiddhi* (inconclusiveness).

(2) *Sapakṣe sattvam*—presence in *sapakṣa* (similar) instances. The *linga* must be already known to be existing in the cases where the *sādhya* is present. As for example, smoke is found to be present in a kitchen or an engine etc. If the *linga* is found absent from any of such similar (*sapakṣa*) instances, the *vyapti* of the *linga* and the *sādhya* would become faulty.

(3) *Vipakṣadṛṣṭi*—absence from the contrary (*vipakṣa*) instances. The *linga* must be already known to be

non-existent in all the cases from where the *sādhya* is found absent. As for example, the absence of smoke from a lake. If this condition is not fulfilled, the *vyāpti* would not be valid.

Violation of these two conditions gives rise to the defect (*doṣa*) called *vyabhichāra* (discrepancy).

(4) *Abādhitarisayatām*—non-contradiction of what is to be proved by another stronger proof or by facts. There should be no ground more efficient and acceptable to deny the presence of the *sādhya* which is alleged to be invariably accompanied by the *linga* present in a *pakṣa*. That is to say, the presence of the *sādhya* should in no case be invalidated by any other more authoritative means of proof (perception or *śabda*). Nor should the *sādhya* be apparently absurd. As for example, any ground offered to establish coldness of fire would involve this deficiency. Violation of this condition gives rise to a defect called *budha* (absurdity).

(5) *Asatpratipakṣiātām*—absence of a counter-balancing reason. This characteristic means that there should be nothing else present in the *pakṣa* along with the *linga*, which is invariably connected with the absence of the thing whose presence we are going to establish. As for example, the observation of smoke on a hill, while it is raining there, cannot ensure the presence of fire which might have been extinguished before the column of smoke disappeared. Violation of this condition gives rise to a defect called *satpratipakṣiātā* (counter-balance).

In the case of the other two *lingas*, the *kevalāntaryāi* and the *kevalavyatirekī*, however, only four of these characteristics should be found if the *linga* is to be valid. In the *kevalāntaryāi* *linga*, the third characteristic, namely *vipakṣāt vyāvṛtti* cannot be found, because there are no *vipakṣa* instances in that case. In the *kevala vyatirekī* *linga* the second characteristic, viz.,

sapakṣe satyam cannot be had, for there are no *sapakṣa* instances available.

With these two exceptions, all the above mentioned characteristics are necessary for a *linga*. The deficiency of a *linga* in any one of these five characteristics gives rise to a fault in inference which makes the *hetu* advanced a faulty one (*dusta hetu*) with only an appearance of a *hetu* (*hetuabhasa*).

CHAPTER VIII

HETVĀBHĀSAH (FALLACIOUS REASONS)

The word *hetvābhāsa* can be interpreted in two ways. Firstly, as an invalid *hetu* appearing as a valid one, i.e. something looking like a *hetu*, but lacking in some or all of the characteristics of a true one (*hetuḥ ābhāsatē*). Secondly, as a fault in the *hetu*, (*hetvābhāsa* or *hetudoṣa*) which would literally mean a fallacy or a defect underlying a *hetu* and making it invalid. The fivefold division of *hetvābhāsa*s given in the *Tarkasāgraha* seems to be based on the second meaning of the term, for it suggests the five main defects that may spoil a *hetu* *linga*. The five *hetvābhāsa*s, namely, *Savyabhichāra*, *Viruddha*, *Satpratipakṣa*, *Asiddha* and *Bādha* involve five chief defects of a *hetu*, namely, *Vyabhichāra* (Discrepancy), *Viruddha* (Contradiction), *Pratipakṣatā* (Counterbalance) *Asiddhi* (Inconclusiveness) and *Bādha* (Absurdity)

THE SAVYABHICHĀRA HETU

The *Savyabhichāra* (Discrepant) *hetu* literally means that *hetu* which involves a discrepancy (*vyabhichāra*) in the concomitance of the *linga* and the *sādhya*. The *linga* coexists with the *sādhya*, not invariably, but only in some cases. The *savyabhichāra* *hetu* coexists sometimes with the *sādhya*, sometimes with absence of the *sādhya*, but not always with either. It is defective owing to the lack of either or both of the second and the third characteristics of a valid *hetu*, namely, *sapakṣe sattvam* and *vipakṣadvairīṇī*; and thus makes the conclusion uncertain and doubtful. Such a *hetu* may establish the *sādhya* as well as its opposite, for it is not invariably concomitant with either



the presence or the absence of the *sadhya* exclusively. As for example, when it is said that sound is eternal because it cannot be touched. In this case we no doubt find that the *vyapti* is negatively true in the case of a table, etc., because we know that a table, or a book etc., is such that can be touched and is not eternal. And in the case of *atmā* (self) we find that it is positively true, because the self is not touchable as well as eternal. But on the contrary, we also find that though knowledge is not capable of being touched yet it is not eternal. So that the *hetu* here advanced, namely, non touchableness is coexistent not only with eternity but also with its absence. As the *hetu* is coexistent with the presence as well as the absence of the *sadhya*, which are contradictories (*antas* or extremes), the name *anaiikantika* is also given to it, which literally means "not connecting itself with one extreme exclusively."

THREE KINDS OF SAVYABHICHARA HETU

The *Savyabhichara hetu* is of three kinds, namely, the *Sadharana*, the *Asadharana* and the *Anupasamhari*.

(1) The *Sadharana* (too wide) *hetu* is that invalid *hetu* which is observed in both the *sapaksa* and the *vipaksa* instances, i.e. which coexists both with the presence of the *sadhya* and with its absence. As for example, "the mountain has fire because it is knowable." The reason given here, namely, knowability, is found to be present in things having fire, as kitchen etc., as well as in things that have no fire, as a lake. There is no reason why there should be inference of fire on the ground of knowability in preference to that of its absence. Hence the *hetu* is invalid, being too wide in extension.

(2) The *Asadharana* (too narrow) *hetu* is just the opposite of the *sadharana*. It is that invalid *hetu* which is observed neither in the *sapaksa* nor in the *vipaksa* instances. Of course,

the absence from the *vipakṣa* instances is an essential characteristic of a valid *hetu*, but the fault of a *savyabhichāra* *hetu* consists in being so widely absent as not to be found even in the *sapakṣa* instances. In other words there is no such instance found which can be quoted as a *sapakṣa* one, for the *hetu* happens to be a peculiar characteristic of the *pakṣa* alone and exists nowhere else. How can then a *sapakṣa* *dristānta* be found? As for example, 'sound is eternal because it is audible'. In this case audibility is a characteristic peculiar to sound and can be present no-where else but in it alone. So all the *sapakṣa* instances, ether, self, etc., which are eternal, lack in audibility. Hence, there is no ground for the establishment of a *vyāpti* between audibility and eternity.

(3) The *Anupasamhāra* (non-exclusive) *hetu* is that invalid *hetu* which cannot allow *sapakṣa* or *vipakṣa* instances to be quoted by virtue of its having "all things" as its *pakṣa* (subject). The term "all things" is so wide and inclusive that nothing is left out to serve as a *sapakṣa* or *vipakṣa* instance and hence the name, non-exclusive; e.g. 'All things are transitory because they are known'.

THE VIRUDDHA HETU

The *Viruddha* (self-contradicting) *hetu* is that invalid *hetu* which, though offered to establish a *sādhya*, actually proves the non existence of the *sādhya* by virtue of its being invariably connected with the negation of the *sādhya*. For instance, in an inference, "sound is eternal because it is produced", the ground offered, namely, "being produced", is in reality invariably connected with non-eternity, but never with eternity. For, the general rule is that the producible is destructible. This kind of invalid *hetu* does not exist in the *sapakṣa* instances where it should, but exists, on the contrary, in the *vipakṣa* instances where it should not.

The *Viruddha hetu* is to be distinguished from the *sādhāraṇa savyabhichāra hetu* on the ground of its never being present in *sapakṣa* instances which the latter always does, and from the *asādhāraṇa savyabhichāra hetu* by reason of its existing in *vipakṣa* cases which the latter never does. The *Viruddha* differs from the *savyabhichāra* in general mainly in that in the latter the *vyapti* is only imperfect or defective whereas in the former it is actually self contradictory. 'Devadatta is a scholar, because he is a man, would involve *vyabhichāra* as the *vyapti* between man hood and scholarship is not perfectly correct, but if we say that water is cool because it is put on fire, it is a case of *virodha*

THE SATPRATIPAKṢA HETU

The *Satpratipakṣa* (counter balanced) *hetu* —II at the time of advancing a particular *hetu* for the establishment of the existence of a particular *sādhyā*, there happens to be present before us another ground (*hetu*) which seeks to prove the non existence of that very *sādhyā* there being no overwhelming strength on the side of the first *hetu* to establish its *sādhyā*, the former *hetu* is called *satpratipakṣa*. As for example 'sound is eternal because it is audible', and 'sound is non eternal because it is produced'. In these two inferences the conclusion of the one is contradicted by the conclusion of the other, so the *hetu* of the one is said to neutralise the force of that of the other. Hence the first *hetu* is called a counter balanced reason. The invalid *hetu* is named *satpratipakṣa* only so long as its force is neutralised by the other *hetu*, but when the other *hetu* becomes stronger and more capable of proving the contradictory fact, it ceases to be *satpratipakṣa* and becomes *bādhitā* (absurd)

The *Satpratipakṣa hetu* is to be distinguished from the *viruddha* by the fact that in the case of the *viruddha* the one

and the same *hetu* proves the contradictory of what it ought to prove, whereas in the case of the *satpratipakṣa* it is another *hetu* (*hetvāntara*) which proves the contradictory of the *sādhya*. That is the *viruddha hetu* is irreconcilable with the *sādhya* in the same *anumāna* while the *satpratipakṣa hetu* is inconsistent with the *sādhya* in a counter inference.

THE ASIDDHA HETU

The *Asiddha* (inconclusive) *hetu* involves the fault *asiddhi*, which is a drawback in the *parāmarśa*. *Parāmarśa* has been defined as *vyāptiviniṣṭapaśādharmatājñānam*, and thus consists of three factors, namely, *pakṣatā*, *pakṣadharmatā* and *vyāpti*. The unestablishment (*asiddhi*) of any of them will give rise to one of the three forms of this fallacy, namely, the *Āirayāsiddha*, the *Śārūpāsiddha* and the *vyāpyatāsiddha hetu*.

(1) The *Āirayāsiddha* (inconclusive on account of the unreality of the *āiraya* or *pakṣa*) *hetu* is that invalid *hetu* which seeks to establish a *sādhya* in a *pakṣa* which itself is unreal or imaginary. One of the characteristics of a valid *hetu*, as has been seen above, is *pakṣadharmatā* which means that the *hetu* must be known as actually existing in the *pakṣa*. But how can it be known to be existing in a *pakṣa* which itself is imaginary or unreal? Hence the unreality of a *pakṣa* in any inference would go against one of the chief characteristics of a valid *hetu*, and would make it invalid and incapable of giving rise to any valid conclusion. As for example, 'a ghost breathes because it has life, whatever has life breathes, as a man'. There is no agreement of opinion on the very existence of a ghost, and so it is quite absurd to assign any *hetu* to the presence of life in it, which cannot be present in it simply because it itself is unreal.

ca'ed. The sky lotus can be a flower only when it is in existence. But there is no existence of a sky lotus as such. Hence the *hetu* attributed to it is *āśrayāsiddha*.

(2) The *Svarūpāsiddha* (inconclusive on account of its incompatibility with the *pakṣa*) *hetu* occurs when the nature of the *hetu* is such that it cannot abide in the *pakṣa*. This kind of *hetu* is inconclusive, because it cannot be found to exist in the *pakṣa* not because the *pakṣa* is unreal, as in the previous case, but because it cannot by its very nature belong to the *pakṣa* which may be real. This is also a defect in the first characteristic of a valid *hetu*, namely, *pakṣadharmatvam*, because it demands that the *hetu* must be found present in the *pakṣa*, but if the nature of the *hetu* is incompatible with that of the *pakṣa* it is impossible to be present there. As for instance, 'the lake is full of fire, because it is full of smoke, wherever there is smoke there is fire, as in a kitchen'. In this case it is quite evident that the *hetu* (smoke) will not give any conclusion, simply because it is itself not present in the *pakṣa* (lake), and so is unreal. The *hetu* may be real in itself, as in the present example, yet what is required to make it capable of proving the existence of the *sādhyā* is its *pakṣa* *dharma* i.e. its actual presence in the *pakṣa*.

(3) The *Vyāpyatāsiddha* (inconclusive on account of a conditional *vyāpti*) — This kind of *āsiddhi* occurs when, although the *pakṣa* is real, and the *hetu* given also is present in the *pakṣa* yet the *vyāpti* to which it owes its *hetutā* is not universally true which it should necessarily be. So, an invalid *hetu* is said to be *vyāpyatāsiddha* when the fact of its being invariably accompanied (*vyāpyatā*) by the *sādhyā* has not been sufficiently established, or, when the invariability, being only conditional or admitting of limitations, is taken to be quite unconditional in its scope. As for example, in the in

ference, 'sound it perishable because it exists; whatever exists is perishable, as a cloud,' the fault lies in the fact that the relation of the *vyāpti* between existence and perishability, on which the conclusion is based, has not already been sufficiently established (*asiddha*). And in the inference, 'the mountain has smoke because it has fire; wherever there is fire there is smoke,' the *vyāpti*, 'wherever there is fire there is smoke,' which is the ground of the inference here, is not universally true. It is true only in certain cases where a condition (*upādhi*), namely, 'fire being accompanied with wet fuel', is present. To forget such conditions which alone make a *vyāpti* valid, would be a source of fallacy, just as in the case of a man residing at Benares, our inference that he is a great scholar would be a mistaken one, for a man living at Benares becomes a scholar only when he studies diligently. Such a *vyāpti* is called *sopādhika* or conditional.

The condition which enables the *hetu* to be invariably accompanied by the *sādhya* is technically called *upādhi*. The presence of wet fuel with fire and of diligent study in the case of a man residing at Benares are examples of *upādhi*. *Upādhi* is defined in *Tarkasāgraha* as *sādhyavyāpakatve sati sādhanā-vyāpaka upādhih*, i.e., a condition is that which invariably accompanies the thing to be proved (*sādhya*) but does not always accompany the *sādhana* (*linga*). In the above example, fire is the *linga* and smoke is the *sādhya*, wet fuel is the *upādhi*. Wet fuel always accompanies smoke when the latter is present in fire, but it is not invariably present with fire. (See p. 129).

THE BĀDHITA HETU.

The *Bādhita* (absurd—literally, contradicted) *hetu*:—A *hetu* becomes *bādhita* when we already know, on the ground of either perception or any other more authoritative means of

knowledge, that the *sādhya*, which the *hetu* is alleged to establish, does not actually exist in the *palāśa*. In such cases, the *hetu* advanced becomes really absurd, on account of its futile attempt to establish the existence of things which are definitely known to be nonexistent. As for instance, any *hetu* given to prove coldness of fire, would be absurd, for the possession of coldness by fire, is against perceptual evidence, which is of course more authoritative than any inference.

The *badhita hetu* differs from the *Satpratipakṣa* in the fact that the *sādhya* in it is actually disproved by another stronger proof, while in the *satpratipakṣa* there is no such *badhā* (contradiction) of the *sādhya* by a stronger proof, but only counterbalancing of the forces of the two inferences, neither of which prevails over the other. But as soon as one of them prevails, the *satpratipakṣa hetu* becomes *badhita*.

AB The reader should remember that the term *hetu* has often been used by Indian logicians for the *linga*. It has not been exclusively used for the second of the five *anuyamas* (proposition) of a *pararthanumāna*, as it should have been done to avoid confusion.

OTHER FALLACIES

The *hetvabhāṣas* (Fallacies of the Reason or fallacious Reasons) are not the only fallacies pointed out by Indian logicians although these alone are mentioned in *Tarkasaṅgraha*. Like the *hetvabhāṣas* some logicians point out the *abhāṣas* of the other terms and parts (*anuyamas*) of syllogism.

Dignāga, a great Buddhist logician, mentions several kinds of *Pakṣabhāṣas* (fallacies of the minor term) or fallacies with regard to the thesis to be proved (*Pratijñā*). A *pratijñā* is fallacious according to him (and also according to Śiddhaśena Divākara, a Jain logician) when it is (1) incompatible

with perception, (2) incompatible with other inferences, (3) incompatible with the public opinion, (4) incompatible with one's own doctrine, (5) incompatible with one's own statement and (6) incapable of being proved, etc. Both these logicians also mention several kinds of *Dr̥ṣṭāntābhāṣas* (fallacies of the Example). The main kinds of the *Dr̥ṣṭāntābhāṣas* mentioned by them are two, namely, the *Sādharmya-dr̥ṣṭāntābhāṣa* and the *Vaidharmyadr̥ṣṭāntābhāṣa*, the former referring to the *sapakṣa* and the latter to the *vipakṣa* instances

Gautama, the author of the *Nyāya Sūtras*, mentions a number of other fallacies, most of which are committed in debates, under the heads of *Jati* (irrelevant arguments) and *Nigrahassthānas* (weak-points in arguments). He points out 24 kinds of *Jatis* most of which are arguments based on false or far-fetched analogy and wrong distinctions, and 22 kinds of weak points (*Nigrahassthānas*) of arguments where defeat is inevitable. Some of the latter are the formal fallacies of the Reason (*hetvābhāṣas*); others are various forms of what is called *Ignoratio Elenchi* by the Western logicians, E.g. *Pratijnāntara* (shifting the proposition) and *Arthāntara* (changing the topic) correspond to "Shifting the Ground" of the Western logicians. *Asipnātārtha* roughly corresponds to *argumentum ad ignorantiam*

Under the head of *Chhala* (verbal trickery) Gautama mentions three fallacies which correspond to *Equivocation*, *Accident* and *Figure of speech* (used in somewhat different sense from how it is explained by Western logicians) with the difference that *chhala* is committed consciously to deceive the other party. They are *Vāk-chhala*—trick of equivocation of words, *Sāmānya Chhala*—a trick based on confusion of the particular or individual (specific) and the general (generic) meaning of the terms, and the *Upachāra chhala*—a trick based

on the confusion of figurative and literal meanings of the terms

There are four other fallacies which are often pointed out by critics in the arguments of their adversaries, namely, *Atmaśraya*, *Anyonya śraya*, *Chakraka* and *Anavastha*, which respectively correspond to Begging the Question, *hysteron proteron* and *circulus in demonstrando* (reasoning in a circle) —forms of *Petitio Principii*. *Atmaśraya* is committed when the *hetu* is the same as *pratijna* in a different form. *Anyonya śraya* is committed when in an argument the truth of the *Pratijna* (thesis) depends upon that of the *Hetu* (Reason), and the truth of the Reason in turn depends upon that of the *Pratijna*. That is the Proposition (thesis) and the Reason mutually support each other. *Chakraka* is committed when in a chain of inferences we establish a conclusion at the end, which is already assumed as a *hetu* at the outset. We return in such a case from where we start. *Anavastha* or arguing *ad infinitum* occurs when the *hetu* of an inference is such that it itself requires to be established by another *hetu*, and that *hetu* by another, that by another, and so on *ad infinitum*, so that the entire chain of inferences rests on an unestablished or not self evident foundation. The *hetu* in every correct inference must be such as is acceptable to one before whom a proposition is to be demonstrated.

The Jain logicians point out seven other fallacies which arise by unduly emphasising or exclusively accepting a particular point of view (See Chapter XII). They are —(1) *Naigamabhāsa* when one makes a false abstraction between the generic and the specific nature of things, (2) *Sangraha bhāsa*, when one lays undue emphasis on the generic nature of things and regards it as the essential aspect of them, neglecting the specific characteristics. (3) *Vyavaharabhāsa*, when one

lays undue emphasis on the specific characteristics of things and identifies them with the things, neglecting altogether their generic nature; (4) *Rijusūtrābhāsa*, when one emphasises too much the momentary nature of things and regards it as their essence, neglecting their permanent and abiding characteristics. (5) *Sabdābhāsa*, when one lays undue emphasis on the grammatical aspects of terms (gender, number, etc.), neglecting their meanings; (6) *Samābhikaradhābhāsa*, when one lays too much emphasis on the etymological meanings of terms, neglecting the actually prevalent sense in which they are used, and (7) *Evambhūtābhāsa*, when one emphasises too much the functional aspect of things and regards the function as the very essence of them.

Thus, to bring them all together, the most important of the fallacies pointed out by Indian logicians are:—

1. *Pakṣābhāsa* (fallacies of the *Pakṣa* or *Pratijñā*),
2. *Hetvābhāsa* (fallacies of the *Hetu*);
3. *Druṣṭāntābhāsa* (fallacies of the Example);
4. *Jāti* (fallacies of false Analogy and Distinction),
5. *Pratijñāntara* and *Arthāntara* (Shifting the Ground);
6. *Atiśayātārtha* (*Argumentum ad ignorantium*),
7. *Vāk-Chhala* (fallacy of Equivocation),
8. *Sāmānya Chhala* (fallacy of Accident);
9. *Upachāra-Chhala* (fallacy of Figure of Speech, when literal and figurative senses are confused);
10. *Atmāśraya* (Begging the Question),
11. *Anyonyāśraya* (*Hysteron Proteron*);
12. *Chakraka* (Argument in a circle),
13. *Anavasthā* (*Argumentum ad infinitum*),
14. *Naigamābhāsa* (fallacy of Abstraction);
15. *Sangrahābhāsa* (fallacy of undue emphasis on the Generic nature);

- 16 *Iyavaharabhāsa* (fallacy of undue emphasis on the Specific nature),
- 17 *Rijusutrabhāsa* (fallacy of undue emphasis on the Momentary nature),
- 18 *Śabdabhāsa* (fallacy of undue emphasis on the Grammatical aspects of terms),
- 19 *Samabhirudhabhāsa* (fallacy of undue emphasis on the Etymological meaning of terms),
- 20 *Etambhutabhāsa* (fallacy of undue emphasis on the Functional aspect)

REDUCTION OF OTHER FALLACIES TO HETVABHĀSAS

It is however curious that not only *Tarkasangraha* but also other works written by modern Indian logicians make no mention of other fallacies than the *Hetvabhāsas* (fallacies of the *hetu* or fallacious Reasons). They might have probably thought that all fallacies are ultimately reducible to the *Hetvabhāsas*. M. R. Bodas, the author of the Critical and Explanatory Notes on *Tarkasangraha* (published in the Bombay Sanskrit Series 1918) has argued in favour of this opinion. He says "A little consideration however will show that all the varieties of *abhāsa* can be reduced to a *hetvabhāsa*. A fallacy, in whatever part of the syllogism it may lie, can, by stating the syllogism in a logical form, be reduced to some improper use of the middle term in one or both of the premises. The middle term being the link which connects the subject and predicate of the conclusion, determines in fact the character of the whole syllogism, and so if the latter is invalid the invalidity must in one way or another arise from some defect in the connecting link. Not that other parts of the syllogism may not be faulty, but the faults can by restating the syllogism in a suitable form be referred to the middle term. The chief thing required for a valid *anumiti* is

a correct *Parāmarśa*; and a *Parāmarśa*, which is composed of three constituent elements, *pakīatā*, *pakīadharma* and *vyāpti*, is correct only when its three components are faultless. Hence all the faults of syllogism must belong to some one of these three things. When the fault lies in the *pakīadharma* or *hetutā*, it is of course a *hetvābhāsa* proper. The fault lies in *pakīatā* only when the *pakīa* or minor term is totally unreal thing, such as *gaganāravinda* (sky-lotus), or when it is a thing on which the *hetu* does not reside. Either way the *hetu* or the middle term cannot be predicated of the minor, and the two cases fall under *Ārayāsiddha* and *Starūpāsiddha* respectively. . . . When a fault lies in the *vyāpti*, it can always be traced to a *vyābhicharita* or a *sopādhika hetu*. . . The twenty-four *jātis*. . . can be easily reduced to *hetvābhāsa*. . . There can be no *pakīābhāsa* or *vyāptiābhāsa* or *drstantābhāsa* apart from the *hetvābhāsa*. *Pakīābhāsa* or misleading minor falls under *ārayāsiddha*. *Vyāptiābhāsa* or false generalisation is nothing but a *vyābhicharita* or *siddha vyāpti* and is included in *anāikāntika* or *vyapyatāsiddha hetvābhāsa*. *Drstantābhāsa* also falls under the same, as it is not a *dosa* in itself, but acts by vitiating the *vyāpti*. Lastly the complex fallacies known as *anyonyasāya*, *anavasthā* and *chakraka* are only series of two or more invalid syllogisms. In this way the five *hetvābhāsa*s named in the Text can be shown to include all the possible cases of fallacious arguments." (*Tarka-saṅgraha*, edited by Y. V. Athalye, Bombay Sanskrit Series, LV p. 321 f.).

We agree with the view quoted here in so far that all the fallacies of inference or syllogism, as it was understood in India, have been included in the *hetvābhāsa*s mentioned in *Tarkasāṅgraha*, which have been dealt with above. But the formal fallacies of inference are not the only fallacies which are committed in actual thinking. There are many other fal-

lacies pointed out by the Western as well as the ancient and medieval Indian thinkers, which are apt to be consciously or unconsciously committed in every day thinking and discussions. The list of the fallacies pointed out by the ancient and medieval Indian logicians was certainly very large, unsystematic and unwieldy. But the modern attempt to confine to the *hetvabhasas* alone is not very desirable, for some of the fallacies of which the students of logic should be aware are left unmentioned in the text books of modern Indian logic. A new attempt at classification of all the possible fallacies that may be committed, is very much needed in Indian logic.

CHAPTER IX

UPAMANA (COMPARISON).

Upamāna is the technical name for a peculiar means of knowledge admitted by the Nyāya, Mīmāṃsā and Vedānta schools of thought. Thinkers of the Vaiśeṣika, Sāṃkhya, Yoga, Bauddha and Jaina schools do not admit the necessity of regarding it as a separate and independent means of knowledge (*pramāna*). They reduce it to *Anumāna*, *Pratyakṣa* or *Śabda*, or to a combination of them.

DEFINITION OF UPAMANA

The Naiyayikas who admit it as a distinct and independent means of knowledge define it as "the means of acquiring the knowledge of a thing through its similarity to another thing previously well known" (*Nyāyasūtras*, I.1.6). The knowledge thus acquired is called *upamiti*. *Upamiti* is defined in *Tarkasamgraha* as "the knowledge of the connection of a name with the object denoted by the name. The knowledge of similarity is the proximate cause of *Upamiti*". The essence of the *pramāna* thus consists in recognising a new object of a peculiar kind, unseen before, not by perception alone, but also by a comparison of the object with some other object which has been previously heard to be similar to it. The new object is brought under a concept (name) which was formed from a description of it, given by way of its comparison with some well known object, by another person who knew both the objects. The new knowledge is thus based upon the direct knowledge of similarity of the previously unknown object with

the one already known. The idea of similarity was not got by the *pramāta* (knower) by actual perception of the two objects together or even at different places and times. It was only received from another person who knew them both and pointed out the attributes in which they were similar. This idea is present in the mind of the person who has not 'seen' one of the two things compared. When the previously unseen object is perceived and its attributes, learnt by way of similarity pointed out by the other person, are noticed, the object is at once brought under the name which was merely a name hitherto.

EXAMPLES OF UPAMANA

To illustrate the *pramāna*, we may give an example. A man who has never seen a "mule" but has only heard its name, is told by another person that a mule resembles a horse in many respects, and those aspects in which the two animals are similar are pointed out to him. Now, some day he actually happens to see a new animal not seen by him before, which resembles a horse in the aspects pointed out to him by the other person. He at once recollects that the animal must be a mule, because it has got the attributes common between a horse and mule. The stock example given in all books of Indian Logic is that of the knowledge of a *garaya* (a species of ox) arising through *Upamāna*. Thus we find *Tarkasangraha* illustrating the *pramāna*. 'A person happens to be ignorant of the object denoted by the word *garaya*. He learns from a forester that a *garaya* is similar to a cow. He goes to a forest, happens to see the animal called *garaya*, which is similar to a cow, and recollects the information conveyed to him by the forester. Then the knowledge (*upamāna*), "this is the animal denoted by the name *garaya*" arises in him.

THE MIMĀMSAKA VIEW OF UPAMITI.

The *Mimāmsakas* take *Upamāna* in different sense from that of the *Naiyāyikas*. *Upamāna* is regarded by them as cognising the similarity of the *garaya* in the cow from the perception of the similarity of the cow in the *garaya*. The new knowledge acquired here is that "the cow is similar to this animal called *garaya*" and the instrument (*karana*) of this knowledge is the knowledge that "the animal called *garaya* is similar to a cow," which formerly was only heard and now is directly perceived. According to the *Naiyāyikas*, the resultant knowledge is not the knowledge of the similarity of the cow with the *garaya* now perceived, as the *Mimāmsakas* say, but the knowledge that the word *garaya* denotes the animal perceived. The latter view seems to be more reasonable. Otherwise the *pramāna* loses its value in giving us some new information. One can very easily say without perceiving a *garaya* that if a *garaya* resembles a cow, the cow must also resemble the *garaya*.

UPAMĀNA AS AN INDEPENDENT PRAMĀNA.

In reply to those logicians who do not admit *Upamāna* as a distinct and independent means of knowledge, the *Naiyāyikas*, who regard it as a separate *pramāna*, urge the following —

The knowledge of the object being a *garaya* does not arise from merely the object coming into contact with the sense-organs, as one would recognise the objects already known to him. That the name *garaya* denotes the object before him does not so much depend upon his perception of the animal as upon his perception of the *resemblance* it bears to the known object, cow, and upon the recollection of the inform-

tion he has received that such an object was called a *gavaya*. Now these factors do not form essential parts of a perception. Hence Comparison should be regarded as a distinct and independent means of knowledge.

Comparison (*upamana*) cannot, according to the Naiyāyikas, be taken as a kind of Inference (*anumana*), simply because it does not involve the use of the essential factor of an *anumana*, namely, a *vyapti* (generalisation of concomitance). The knowledge that the animal is a *gavaya* because it is similar to a cow is not actually got on account of an invariable connection between similarity with a cow and *gavayata* (*gavaya*ness), established by previous experience. What others mistake for a *vyapti* in an *upamana* is not really a *vyapti* but an information given by another person.

Upamana is not even a kind of *śabda* for, *śabda* as a *pramāṇa* does not require that the object about which it gives us information should be perceived in order to be known. *Śabda* in fact becomes unnecessary when the object can be perceived by the hearer of the *śabda*. The information of an object bearing some particular name, when it is similar to some particular object, may be regarded a *śabda* knowledge (knowledge produced by verbal testimony), but that alone is not sufficient to produce the knowledge called *upamāni* by the Naiyāyikas. It further stands in need of the object being perceived.

UPAMANA AS DIFFERENT FROM 'ANALOGY'

Students who study both the Indian and Western Logic

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like this: S is like P; P has got a characteristic x; therefore, S also must have x as its characteristic, although it is not already known to us. That is, we expect certain qualities to be present in some objects simply because those qualities are found to be present in other objects which resemble the former in many other aspects. Evidently, this kind of thinking is quite different from what has been called *Upamāna* in Indian Logic.

CHAPTER X

SABDA (VERBAL TESTIMONY)

DEFINITION OF SABDA.

Sabda as a *Pramana* is defined in *Tarkasangraha* as "A sentence spoken by a trustworthy person (*Āpta*)" A trustworthy or reliable person is 'one who is in the habit of speaking the truth (*yathārtha vaktā*)'. It is evidently a very comprehensive definition of *Sabda* and includes not only the Scripture which is regarded as the Word of God, but also the statements made by worldly persons who know the truth and communicate it correctly. The *Vedas* are considered as authoritative because they are regarded by the Naiyayikas to be the words of God (*Īvara*) who is omniscient and reliable in the highest degree. In the same way the statements of any worldly person (*laukika Sabda*) will be authoritative when it is certain that the person is a trustworthy one.

SABDA NOT A PRAMANA ACCORDING TO SOME THINKERS

Sabda is not admitted to be an independent means of knowledge by the Vaiśeṣikas, the Jains and the Buddhists. Dignaga, the great Buddhist logician, points out that Testimony (*Sabda*) cannot be regarded as a separate source of knowledge, simply because our knowledge of the reliability of the person is derived either from our perception of the fact stated by him or from an inference of his reliability based upon our observation that his other statements have proved true.

THE VEDAS ALONE AS ŚABDA ACCORDING TO SOME.

The Sāṃkhya, Yoga, Mīmāṃsā and Vedānta schools of thought agree with the Nyāya in regarding Verbal Testimony as an independent source of valid knowledge, but they all differ from the Nyāya as to the denotation of *śabda*. By *śabda* they mean the Vedas and whatever else is based upon and does not contradict them. And the Vedas are authoritative, not because they are words of a trustworthy Divine person, but because they are not known to have been created by any person (*āpauruṣeya*) and are eternal. The words of the Vedas have come into manifestation or have been revealed only, but have not been created by any person, human or divine. However reliable a person may be, his statements cannot be regarded by these schools of thought as a *śabda* (Word).

ŚABDA ACCORDING TO THE NAIYĀYIKAS.

The Naiyāyikas, on the other hand, think that the Vedas, being composed of words and sentences, must have an author. That author is God. The validity and reliability of the statements and injunctions of the Vedas is inferred from the reliability of God. God is credible in the highest degree. But that does not preclude men from being reliable with regard to what valid knowledge they may have and may convey to others. We often rely on the statements of others whom we regard as *ūpta* (trustworthy) in cases where direct perception or inference is not possible. We get the valid knowledge as to whether a river is fordable or not from the person who knows it and who has no motive for telling us a lie. The Naiyāyikas, therefore, admit two kinds of *śabda* (Verbal Testimony), one *Vaidika* or Scriptural and the other *Laukika* or worldly.

SABDA, VĀKYA, PADA AND SAKTI

The term *Sabda* as it must be evident from the above, does not mean as in the popular speech, a word. Here it is used in a technical sense. *Sabda* as a *pramana* means a statement (*utpāda*) of a reliable person (*apta*). A statement or sentence (*vākya*) is composed of intelligible words (*padah*). Words (*padah*) are linguistic symbols capable (*śakta*) of denoting objects or relations existing in the world. This capability (*śakti*) of words to denote things has its origin, according to the Naiyāyikas, in the command of God (*Īśvara sanketa*) at the time of creation of the world that such and such words shall mean such and such things.

This theory of the origin of language is called prescientific by modern scholars. It has very few supporters now when people know that the meaning of words has been changing from time to time, and that there is no common and unchanging language of the entire humanity or creation. It finds little support from the modern scientific study of the problem.

THE VRTTI OF WORDS

The later logicians distinguish between two kinds of *vrtti* or relation between a word and the thing referred to by it, namely, signification (*sanketa* or *abhidha*) and implication (*lakṣana*).

Signification (direct meaning of words) is of two kinds, viz., the permanent and the occasional. The permanent signification is called *śakti* (capability). It is that which was willed by God. "Let such and such things be understood by such and such words." The occasional signification (*paribhāṣa*) depends upon the will of man—"Let such and such things be understood by such and such words." There has

been a great deal of discussion as to whether the *fakti* of words refers to individual objects or to the classes only. If it refers to the former (the individuals), language should have as many words as the individual objects in the universe which is not the case, if, on the other hand, it refers only to the classes, nothing can be said about the individuals. Gaṅgeśa, the author of *Tattvachintāmaṇi*, holds that the *fakti* of words refers to individuals coming under a class and possessing the form of the class.

When a word refers to a thing which is not directly signified by the word but which is related to the thing directly signified, the *vrtti* is called *lakṣaṇā* (implication). When, for example, a man says that X is the pillar of the state, he does not refer to what is directly meant by the word "pillar", but to something else related to pillar, namely, support. The stock example of Indian logicians is "a village of cowherds on the Ganges", where, "on the Ganges" does not really mean on the Ganges, but means 'on the bank of the Ganges'.

CONDITIONS OF INTELLIGIBILITY OF A VAKYA

Any combination of words (*pada-samūha*) will not by itself convey a meaning, although every word in it may singly mean or imply objects. In order that a collection of words may become an intelligible *vākya* (sentence), it has to fulfil three conditions, namely, *ākāṅkṣā*, *yogyatā*, and *sannidhi*.

1 *Ākāṅkṣā* (Expectancy) The words making up a sentence should be such that when one of them is heard and has aroused in the mind of the hearer a desire to know something more about the thing denoted by it, the other words, or all the words together, should be able to satisfy the desire. A want of this condition would make the whole combination of words unintelligible. A collection of words like "cow,

horse, ghost, God, action, love, went" would mean nothing. In other words, a collection of words, in order to be intelligible, must be such as contains a subject—about whom something is said, and a predicate—that which is said about the subject.

2 *Yogyata* (Compatibility) —The words forming a sentence must be compatible with or appropriate to each other, or rather, we may say, the things signified by them must be mutually compatible. The sentence as a whole must give us a meaning which is consistent with reality. Such words are to be avoided from being put in the same sentence, as denote things that cannot actually exist in the relation meant by the sentence. For example, it is absurd to say, "He sprinkles mountains on the roof" or "He quenches his thirst with fire." The words and their relations expressed in these sentences are not intelligible. Fire can never quench thirst, nor can mountains be sprinkled, as long as the nature of things is what it is. These sentences are unintelligible in spite of the first condition (*ahīnkṣa*—the formal correctness) being fulfilled.

3 *Sannidhi* or *Asatti* (Contiguity) The words of a statement must be contiguous (near) to each other. That is, they must be pronounced immediately one after the other. They should not be separated by a long interval of time between them. A sentence like "Bring me water" will have no meaning if the word "bring" is uttered in the morning, "water" in the evening and "me" in the noon. In the case of written sentences the contiguity required is that of space, that is, the words of a sentence should not be separated by a long distance.

Of these conditions, the first (*ahīnkṣa*) appears to be a subjective condition, that is, referring to the state of the mind

of the hearer, the second (*yogyatā*) an objective one, that is referring to the nature of things, and the third (*sannidhi*) verbal, that is, referring to the words themselves.

4 Some logicians have added a fourth condition also, namely, *Tātparyajñāna*,—knowledge of the intention of the speaker in the situation—which, they think, is essential for understanding the meaning of a sentence. Without a knowledge of the intention of the speaker, one often fails to make out what a sentence means. For example, "Bring the paper" would have various meanings according to the different contexts, and the servant will be at a loss to understand what is wanted, unless he knows the intention of the master. "Bring *saindhava*" is the stock example of Indian logic in this connection. The word *saindhava* means a horse as well as salt. Whether a man wants salt or a horse cannot be known unless some insight into his intention is possessed by the hearer. Thus one can know easily from the situation or context

It should not be forgotten that the above mentioned conditions contribute only to the intelligibility of a sentence. They do not make it authoritative. It becomes authoritative only when spoken by a trustworthy person.

THE ŚĀBDA JÑĀNA.

The statement made by a trustworthy person is called *Śabda*, and the knowledge produced in the mind of the hearer is called the *Śabda jñāna*. *Śabda* is the indispensable cause of the *Śabda jñāna* (knowledge through verbal testimony).

CHAPTER XI

A YATHARTHANUBHAVA (NON VALID KNOWLEDGE)

So far we have been dealing with the nature and varieties of valid knowledge (*yatharthanubhava*) and the means of arriving at it. Let us now consider the varieties of non valid knowledge (*ayatharthanubhava*) also. Non valid knowledge, as we have already seen, consists in all those forms of experience (other than memory) which give us such attributes or characteristics of things as they do not actually possess.

KINDS OF NON VALID KNOWLEDGE

The division of non valid knowledge (*ayatharthanubhava*), given by Annambhatta in his *Tarkasangraha*, into three heads, viz (1) *Sanśaya* (Doubt), (2) *Viparyaya* (Illusion) and (3) *Tarka* (Arguing on False Supposition), shows that the term *ayatharthanubhava* is used in a very wide sense, so as to embrace not only wrong knowledge (*apramā* proper), but also Doubt (*sanśaya*)—that stage of knowledge when we have not yet arrived at any certainty about either false or correct attributes of things and *Tarka* (*Reductio ad absurdum*), in which we deliberately assume certain false premises in order to show their absurdity through what follows from their acceptance. Some Naiyāyikas included dreams also in the category of non valid knowledge.

The nature of the three varieties of non valid knowledge mentioned above is the following according to *Tarkasangraha* —

1.—SANSAYA.

Sanjaya (Doubt) is the consciousness of two or more contrary attributes in one and the same object, without any certainty of either. It lacks certainty, because there is a feeling that the two attributes are irreconcilable (*viruddha*) with each other and that only one of them can be predicated of the object, and not both. But which should be predicated is not yet decided. For example, the doubt that the yonder thing is a post or a man, when nothing definite can be said about it.

In fact *sanjaya* should not be classed as a kind of *apramā*, if the latter is to be translated as wrong experience, for it is in fact no definite experience yet, but only a midway stage in the course of an experience, which may, when certain, turn into either *pramā* or *apramā*. The reason why a state of doubt is classed under *ayathārthanubhava* seems that here the term *ayathārthanubhava* is taken not in the sense of invalid knowledge (*ayathārtha-anubhava*), but in the sense of all cognition that is not valid knowledge (*a-yathārthanubhava*). According to the division by dichotomy all knowledge will be either valid knowledge or non valid knowledge. Doubt is not the former, hence, it must come under the category of the latter. But one may question whether doubt is knowledge at all, unless all mental cognitive states are regarded as knowledge.

2—VIPARYAYA

Viparyaya—Error or Illusion—is a form of experience in which we know with certainty a particular object as possessing attributes which it does not really possess. It is the knowledge of an object as quite different from what it actually is. A doubt turns into an error when a wrong alternative in predication is selected in preference to a right one.

The object is then regarded as what it is not in reality (*anyathakhyati*). An essential condition of the error or illusion is that it is not deliberately adhered to. It is due to unknown causes—some defects in the subjective or objective conditions of knowledge—which obstruct the production of right experience. For instance, the perception of a snake where there is only a piece of a rope.

DIFFERENT VIEWS OF ILLUSION

The occurrence of illusion has been conceived differently by different schools of thought. Illusion is a fact of experience nobody questions it. But what exactly happens when we have an illusion is a point of dispute. Whence do the attributes directly apprehended in the object come when we are having an illusion?

ASATKHYATIVADA

According to the *Asatkhyati* (appearance of that which is absolutely unreal) view of the *Madhyamika* school of Buddhism the objective contents of an illusion are absolutely unreal. They do not at all exist in the object perceived as such. There is for example no snake in existence in a piece of rope when the illusion of perceiving a snake in place of the piece of rope occurs. It is non-existent (*asat*), but it is experienced as existent. So far they are right. But why we should experience a non-existent object as existent they do not explain. They would only say that it is the general character of all our knowledge that we perceive what does not exist.

ATMAKHYATIVADA

The *Yogachara* (Idealists) school of Buddhism goes a little further into the problem and holds the *Atmakhyati* doctrine. According to this doctrine the contents of an illusion

do not exist in reality or objective world. They are only ideas (*kalpanā*) of the self (*ātman*) or mind. There is no snake in world outside the mind. It is an idea of the mind appearing as projected in the objective world. The doctrine is satisfactory so far as it goes; and there is an element of truth in it. But it does not explain at all why should an idea of the mind be projected out, or why it should be ceased to be regarded as an idea merely. In an illusion the false attributes predicated of the object perceived are regarded as the real characteristics present in it. Moreover, according to the Buddhist Idealists even our correct preceptions are also ideal in character, i.e., they are also projections of mind. So the problem of distinguishing between the real and the unreal characteristics of objects remains unsolved. According to them, the rope is as much an ideal construction (*kalpanā*) as the snake. How to say then that the one is real and the other unreal? Their criterion that that which works successfully is real is not satisfactory, for even the dream hallucinations work successfully in their own sphere.

SATKHYATIVĀDA

As opposed to these two views, we have the *Satkhyātī* doctrine of Rāmānujāchārya, which is ultra realistic in its nature. According to Rāmānujāchārya there is nothing *ideal* (*kālpanika*) in illusion. Whatever we perceive, whether in a valid perception or in an illusion, is objectively real (*sat*). It is something given or presented to the senses and not merely imagined or created by the mind out of nothing. The function of knowledge is not to create, but to reveal. If we happen to see silver where others see only nacre, it is because of the actual existence of the elements of silver, in however small quantity they may be, in the object which has got the elements of nacre in preponderance. On account of some

defect in our perceiving mechanism or in the environment, or due to our *karmas*, we do not perceive the elements of nacre but perceive the elements of silver only. Similarity is partial identity. And illusions are due to the latter. Some attributes of a snake are present in the piece of rope where an illusion of a snake occurs. Even the dream objects are not unreal according to Ramānujacharya. They are real, although temporarily created for the suffering or enjoyment of the individual who dreams.

There seems to be some truth in this view also, but not much. Every illusion has got some basis in reality. There is, no doubt, partial identity in all cases of similarity. But no man of common sense will ever hold that the object of illusion, as such and in its entirety, is existent in the objective world in the environment in which it is perceived. There is so little of snake-ness in a piece of rope, and so little of silver-ness in a piece of nacre, that it really looks absurd to hold that the snake and the silver perceived as such are actually existent in the real world then and there.

ANNYATHĀKHYATIVĀDA

The Naiyāyikas, who are also realists, therefore, hold a view called *Annyathākhyatī* or *Viparītakhyatī* (appearance of a thing as another or otherwise than it is). According to this doctrine, we perceive, in an illusion, those attributes which are not present actually in the object we are trying to perceive, but which are actually present elsewhere. The realistic position of Nyāya compels it to say that all that is perceived must be presented to the senses and must be real or existent in the objective world. But they do not go to the extreme of Rāmānuja in holding that all that is perceived is present here and now. They say that the attributes perceived in an illusion

are real, and though not present here and now, they are existent elsewhere and at other time.

So far the view may be right, but the difficulty in this theory of illusion is: How does one perceive with his senses operative here and now the attributes present elsewhere and at other times? There is hardly any satisfactory reply other than an absurd one, that the sense-organs at such times function supernormally, and thus come into contact with the attributes existing elsewhere, no matter what the distance in time or space may be between the object attempted to be perceived and the object actually perceived. Nothing can be more absurd than this, when it can be very easily held that much of what we perceive in an illusion is supplied by the mind from its store of past impressions of objects perceived before.

AKHYĀTIVĀDA.

More reasonable than all the preceding views, therefore, seems to be the *Akhyātivāda* (doctrine of non-discrimination) of the Sāṃkhya and the Mīmāṃsā schools. According to this view, every illusion is due to non-discrimination or non-differentiation between two pieces of knowledge; or between knowledge got through two sources. Sometimes the confusion takes place between the actual partial sense-perception and the memory-images aroused by the perception; at other times it takes place between two sense-perceptions. In the case of the illusion of a snake, for example, the actual illusory experience, "This is a snake", is composed of two pieces of knowledge, namely, "This is", which is actual sense-perception, and "a snake" which is a memory-image. The senses, on account of some defect either in them or in the environment, come into contact with only the bare existence of the object plus those aspects of the object (rope) which are common to it and

snake. Man is not however satisfied with indeterminateness, doubt and vagueness. Hence the mind supplies a definite predication in the form of an image. We at once speak out, "This is a snake", forgetting that much of "a snake" is the contribution of the mind and not the report of the senses. The report of the senses is therefore blended with the ideas of the mind, and no distinction or discrimination is made between what is given by the senses and what is contributed by the mind. Hence an illusion. In an illusion of a white crystal appearing as red when a red rose-flower is in its vicinity, we have a non discrimination or non distinction between two perceptions namely, the perception of the white crystal and the perception of a flower. There is a blending and confusion of the two pieces of perceptual knowledge. This view agrees more than any of the previous ones with the view of modern psychology on illusion.

ANIRVACHANIYAKHYATIVADA

The Vedantists of Shankara's school, however, do not agree with this view. Their main objections are two. Firstly, that at the same moment there cannot be two acts of cognition going on in the mind. There is but one indivisible act of cognition at one moment. Secondly, that the attributes of the illusory objects are not in the mind as images, but are felt to be there in the objective world. Had they been merely images in the mind, as the theory of *akhyati* presupposes, they could not have been sensed in space outside the mind of the perceiver, as it happens in all illusions. The illusory snake is an objective reality perceived there in space according to the Advaita Vedantins. They are realists so far as they hold that the function of knowledge is not to create its objects but to reveal them. Sense-knowledge presupposes sensible objects. We all feel, as long as the perception on the illusory snake lasts,

that the snake which we are perceiving *is there*. We are actually afraid of it, and feel nervous as we do before a snake. There is not the least difference in the nature of the real and the illusory snake, so far as the attributes revealed by our knowledge are concerned. This objectivity is not explained by the *akhyāti* theory which holds that the snake is only a mental image confused with the "this" revealed through perception. The illusory snake, according to the Vedantists, is not a mere mental image. It is an external object, there in space and time. But it is a peculiar kind of object, which can neither be called real nor unreal (*anirvachaniya*). The Real is that which persists and the unreal is that which never appears. The illusory snake is not real, because it vanishes. It is not unreal, because it is perceived or because it appears. It is, therefore, neither real nor unreal, but something indescribable (*anirvachaniya*) in these terms. This view is called the *anirvachanīyākhyātivāda*. It lays as much emphasis on objectivity as the Nyaya view does.

porary appearance created then and there on account of the peculiar situation, just as in dreams temporary objects are created by the wish of the individual

This view is criticised by the Naiyāyikas on the ground that there is no indescribable object in the world. All objects are describable. According to them there is no temporarily created object like the snake in the real world when we have an illusion. What we can rightly say is that something is apprehended as otherwise than what it is. This is what the doctrine of *anyathākhyāti* or *viparītākhyāti* holds. But this does not explain how and why we apprehend a thing as otherwise than what it is.

be false. That is, it is false to say that there is no fire in the hill. So the conclusion of the original inference is correct. That is, there is fire on the hill.'

The reason why *tarka* is included under the head of non-valid knowledge seems to be, though quite far-fetched, that the assumed premise is false or that the assumed premise leads to a conclusion which does not represent things as they are (*anadhiṣṭaḥ satprakīraka*).

CHAPTER XII

ANEKANTAVĀDA AND SYĀDVĀDA

RELATIVITY OF OUR KNOWLEDGE

In dealing with the various views on the nature of the Effect (*karya*) we pointed out (on page 77) that each of the views is right from the point of view from which the author of the particular view approaches the problem. In fact much of the intellectual animosity will come to an end, when it is fully realised that all of our opinions are expressions of our knowledge of objects from some particular point of view or about some particular aspect of them. They may be true only from that point of view or with reference to that aspect alone from which or about which they have been formed.

Every object has innumerable aspects (*anekanta*), and stands in innumerable relations with other objects of the universe. In all our thinking we always confine to those aspects or relations of objects with which we are at that time concerned, or in which we are interested. We neglect and do not take notice of the other countless aspects or relations in which we are not interested, or with which we are not concerned. Very often, we remain ignorant of the fact that the object has other aspects or relations also than those with which we are concerned, and so identify it with those very aspects of which we are then aware. It is a common tendency. And because everybody is apt to do so, differences of opinion are bound to arise. In fact they do arise, as the interests and needs of different individuals, and so, their relation with the objects are different. It is so in practical life.

as well as in religions, scientific and philosophical thinking. There will never be a time, taking human nature to be as it is, when differences of opinion will cease

However comprehensive our knowledge about any object may be it is always partial, simply because *we have always* to select some of the countless aspects and relations of the objects of our knowledge. As William James, a great psychologist of modern times, has pointed out, the mind "is always interested more in one part of its object than in another, and welcomes and rejects, or chooses, all the while it thinks. We actually ignore most of the things before us . . . What are our very senses themselves but organs of selection? . . . Attention, on the other hand, out of all the sensations yielded, picks out certain ones as worthy of its notice and suppresses all the rest . . . The mind selects again. It chooses certain of the sensations to represent the thing most *truly*, and considers the rest as its appearances, modified by the conditions of the moment . . . Reasoning is but another form of the selective activity of the mind. The mind, in short, works on the data it receives very much as a sculptor works on his block of stone. The world *we* feel and live in will be that which our ancestors and we, by slowly cumulative strokes of choice, have extricated out of this (the objectively given) like sculptors, by simply rejecting certain portions of the given stuff. Other sculptors, other statues from the same stone! Other minds, other worlds from the same monotonous and inexpressive chaos! My world is but one in a million alike embedded, alike real to those who may abstract them". (*Principles of Psychology*, Vol 1, p. 234 f). In *Yogavāsistha*, Vāsistha has told Rama that "One does not know anything other than of what alone one is conscious oneself" (III. 55-61)

This fact is illustrated by the popular parable of the six blind men who went to see an elephant. After each having touched a particular part of the elephant, these blind men returned home and began to tell one another as to what the elephant was like. The first blind man who had touched only the belly of the elephant said, "The elephant is very like a wall." The second one, who had felt only the tusk, disputed the assertion of the first and said, "The elephant is very like a spear." The third, who had touched the trunk, said, "The elephant is very like a snake." The fourth, who had touched the knee only, said, "The elephant is very like a tree." The fifth who had only caught the ear, said, "The elephant is very like a fan." And the sixth, who had seized the swinging tail of the elephant, questioned them all, and said, "The elephant is very like a rope."

"And so these men of Indostan

Disputed loud and long,

Each in his own opinion

Exceeding stiff and strong,

Though each was partly in the right

And all were in the wrong"

All of us are like these blind men in the sphere of knowledge. All our knowledge is limited and relative. We quarrel because we do not realize this fact. Indian philosophers, particularly the Jānas, were aware of this nature of knowledge. They have laid much emphasis on the doctrine of 'Stand points'

THE DOCTRINE OF STANDPOINTS (NAYA VĀDA)

As we have already pointed out, there are infinite number of aspects and relations of objects (*anekantarāsa*). For the purpose of treatment we have to classify them under some prominent heads

According to the great Buddhist philosopher, Nāgārjuna, there are two main aspects of Reality, namely, the Absolute (*Paramārtha*) and the Relative (*Samvṛiti*), i.e. the Reality as it is in Itself and the forms in which it appears to us—"Reality and Appearance", as the English thinker, Bradley, also calls them. The former is the same for all times and in all places. The latter is the name for all those other aspects in which the Essence of things appears to different individuals and in different times and places.

Śaṅkarāchārya, the great exponent of the Vedānta philosophy, makes a three fold division of all the aspects of objects, namely, (1) the *Pāramārthika* (the Absolute) or the One, Unchanging, and Eternal Essence of all things, (2) the *Vyāvahārika* (the Practical) or the usual aspects of things revealed to all of us, and (3) the *Pratibhāsika* (the illusory) or the form in which the objects of our common world appear sometimes to some individuals. Take an example of a pillar standing in a solitary place. We can look at it from three stand-points, according to the aspect of the pillar we have in view, namely, the *essence*, the *name and form* in which it is known to most of us, and the name and form in which it appears to one who is under the sway of an *illusion*. In the first aspect the object is the same Substance (whatever it may be called by different thinkers) of which other objects are also made (Matter, according to some, Spirit according to others); in the second aspect, it is a pillar; and in the third aspect it may be the ghost of a recently dead man.

The Jaina philosophers have pointed out seven chief points of view (*naya*) or aspects (*antas*) under which we know objects. A statement made from one point of view (*naya*) should not be confused with the statement made from another point of view. Every statement is true from its own

standpoint. In a comprehensive knowledge about any objects all points of view must be represented. That is, we should know the object, in order to know it fully from all the points of view. Unfortunately we rarely do so. The seven points of view emphasised by the Jaina logicians are —

1. The *Naigama naya* is the standpoint in which the generic and the particular characteristics of objects are not abstracted from each other. We look at things as concrete wholes without creating a division between their general and individual aspects. It is a standpoint in which the distinction has not yet arisen. In fact to abstract the two aspects from each of them and to think of them apart or to identify the object with either of them is to commit a fallacy called the *Naigamabhāsa* by Jaina logicians. For example when we perceive a cow we never question whether we are perceiving the genus cow or the individual cow. To think that the genus cow is separable from the particular cow is a fallacy according to the Jainas. Many philosophers commit this kind of false abstraction. But to lay too much and exclusive emphasis upon this point of view is also to commit the fallacy of *naigamabhāsa*.

2. *Sangraha naya* is the point of view of the common aspects of objects. Often we have to confine ourselves in thought to the common or generic nature of things neglecting their particular or individual characteristics or differences. For example we often say man is mortal, gold is yellow and heavy metal, iron is hard, etc. When we talk like this we have no thought of particular characteristics of the different men, of the various forms in which gold and iron are found. But to regard the common or generic aspect as the only aspect of things and to disregard the particular is again to commit a fallacy called, *Sangrahabhāsa*.

3. The *Vyavahāra naya* is the standpoint of the specific or the individual characteristics of objects, neglecting their generic or common aspects. It is called *vyavahāra naya* because in our practical life this is the most predominating standpoint. Our likes and dislikes are always for the particulars and not for the genus. E.g., we always choose particular men or women as our friends. Our choice of objects is always determined by their particular shape, colour, size, smell and form etc. But to be so much obsessed by the particular as to forget that it has much in common with other objects of the same class is to commit the fallacy called *Vyavahārābhāsa*.

4. The *Rijusūtra naya* is the standpoint of the present moment. It is the view of objects as they are at the present moment, not caring as to what they have been in the past or what they may be in the future. Often it is necessary to take this standpoint. For example, a judge does not care to know what the murderer was in the past or what he might be in the future, in case he is let off, in awarding the punishment. He punishes him as a murderer. But to confine oneself to this point of view in all affairs of life and with regard to all things would be committing the fallacy called *Rijusūtrābhāsa*. All things have their past, present and future. They change in time. So to regard any object only such as it is in the present moment would be absurd. If a child regards his mother as a very cruel person because she is now beating him, he commits the fallacy.

5. *Śabda naya* is the literal point of view. It is the standpoint of Grammar and confines itself to the gender, number and tense, etc. exclusively, neglecting the meaning of the words. From the point of view of the correctness of language it is very necessary to confine oneself to its idiomatic use. For example, in the Sanskrit language there are words having

masculine and neuter gender but meaning a wife, *Dara* (masculine), *kalatra* (neuter) and *patni* (feminine), all mean wife. English language also has got innumerable idiomatic expressions which mean differently from what the words composing them would signify. Eg 'Man of war' means a warship. In the same way, in Sanskrit '*detanam priya*' (literally meaning beloved of gods) means a fool. But to lay too much emphasis on the linguistic aspects of the terms, neglecting their real and prevalent meaning is to commit the fallacy of *Śabda bhasa*.

6 *Samabhirudha naya* is the standpoint of the etymologist who always tries to use the terms in their etymological sense. It is often necessary to understand the real meaning of terms by referring to their etymological derivation. Eg the term *man* or *manuṣya* comes from the root '*man*' meaning 'to think.' Hence *man* is the creature who is capable of thinking. But to be obsessed by this point of view and always to insist on this aspect of words, neglecting their prevalent meaning is to commit the fallacy of *Samabhirudhabhasa*.

7 *Evambhuta naya* is the point of view of the actual function that any object performs. From this standpoint every thing is defined in terms of what it actually does. A potter is one who makes pots, a carpenter is one who makes wooden furniture and a Brahmana is only one who knows Brahman. To define and understand objects in terms of their functions and utility is certainly a very important thing, for every object has some peculiar function in the economy of nature. But to exclusively confine oneself to this point of view is again to commit a fallacy, called *Evambhutabhasa* by the Jainas. In the world of *vyavahara* (practical life) things and persons retain their names even when they do not perform the function on account of which the names were originally given.

A potter continues to be called a potter even when he has ceased to make pots. Hardly a few Brāhmanas know Brahma. Even a cruel man may be called 'Dayānidhi' (meaning, treasure of mercy) and quite an illiterate man may be called 'Vāchaṣpati' (meaning learned).

As we have already pointed out, the *nayas* (standpoints) are not only seven. They are infinite in number. The seven pointed out by the Jaina logicians are the most prominent. In fact things are known as different at different places, in different times, in different situations, to different persons in their different moods and attitudes. Our knowledge of every object "is confined to the limits of the sense-organs, the time, opportunity, and inclination for detailed scrutiny, habits of inference, the purpose of mind, the store of knowledge about it, etc." (Seashore). This is a truth so plain that we hardly realise it. If we realise it well, we shall cease to be dogmatic, to be fanatic, to be prejudiced, and to be quarrelsome. For, a necessary corollary from this self-evident truth will be that all our judgments are relatively, and so, partially true. From this it follows that about the same thing other judgments, quite different from and even opposed to our judgment may be made. Ours is only one of the innumerable ones that are actually being made. What is cold under certain circumstances and to some is not cold to another. What is beautiful to one is not beautiful or is even positively ugly to others. What is a valuable manuscript to a scholar is not at all so to a grocer. What is poison to one is a restorer of life to another. What is white to an average man is yellow to the jaundiced. The doctrine that gives satisfaction to one is regarded as absurd and repulsive by another. What is distant to one is near to another with a binocle. Such instances can be multiplied by millions.

describable as hot or cold, for it is neither hot nor cold to some person.

5. "*Syāt asti avaktavyam*" (*syāstasyavaktavyam*)—"It may be so and also may be indescribable". E.g., this water may be cold to some body; neither cold nor hot to another body, i.e., indescribable either as cold or as hot.

6. "*Syāt naṣṭi avaktavyam*" (*syānnāstasyavaktavyam*)—"It may not be so and may also be indescribable". E.g., this water may not be hot to some body and neither hot nor cold to another body.

7. "*Syāt asti nāṣṭi avaktavyam*" (*Syādestinastyavaktavyam*)—"It may be so, may not be so and also may be indescribable". E.g., this water is hot to some, not hot to another, neither hot nor cold to still another; or all to the same person at different times.

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